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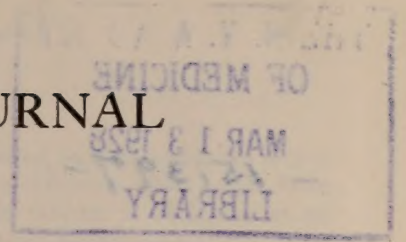








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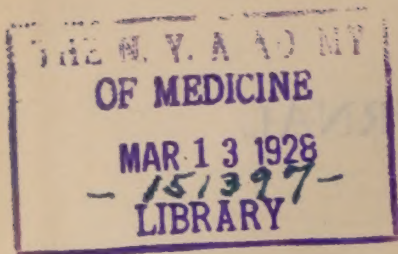


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INDEX TO VOLUME LII

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JULY TO DECEMBER, 1927



ILLINOIS MEDICAL JOURNAL

The Illinois State Medical Society

MEETING AT CHICAGO, ILL.

CHICAGO, ILL., MAY 10, 1928

REPORT OF THE COMMITTEE ON



ILLINOIS MEDICAL JOURNAL

CHICAGO, ILL., MAY 10, 1928



# INDEX TO VOLUME LII

JULY TO DECEMBER, 1927

This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers are also included. Details of society proceedings, including the titles of

papers read, officers elected, etc., can be located in proceedings under Societies, Editorials, News of the State, Marriages, Deaths. The subjects of editorials also appear alphabetically and are marked (E).

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# Illinois Medical Journal

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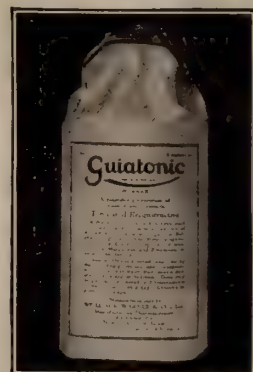
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# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF  
THE ILLINOIS STATE MEDICAL SOCIETY

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No. 1

## ILLINOIS MEDICAL JOURNAL

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## Editorial

### A DOCTOR CAME OVER ON THE MAYFLOWER

Current effort by the medical profession to bring to the attention of the public the conspicuous part doctors have played at all times in the discovery, explorations and subsequent development of the country calls attention with pride to a recent news item. In this a historian has brought out the fact that a hitherto unidentified passenger on the Mayflower was a Doctor. His name was Giles Heale.

The discoverer of the great unknown is Charles Edward Banks, a member of the Massachusetts Historical Society, and it is only a few days since he published the story. He devoted 1922-26 to delving in the national archives of England, France and Holland and to special efforts to identify Pilgrims unknown. A copy of the nuncupative will of William Mullins, who died on March 3, 1621, had been found in 1886 by H. F. Waters, and in 1926 Mr. Banks discovered the original. Here were the veritable signatures, as witnesses, penned by Governor John Carver, Captain Christopher Jones of the Mayflower (whose Christian name had been unknown) and Dr. Giles Heale. This was the first will ever made in New England.

The medical man had been admitted to the London guild of surgeons on Aug. 3, 1619, exactly a year before the Pilgrims left Holland, and it was the vogue for surgeons to serve on passenger ships voyaging "beyond seas." He came to America voluntarily and not improbably aimed at commencing his career in a new country. The pioneer's fiber would, however, seem to have been absent from his makeup, for he left Plymouth in April, 1621, and practiced medicine at London until his death on or about Feb. 3, in 1652 or 1653.

It is natural to infer that in the three centuries since the pilgrim fathers founded Plymouth, Mass., everything about those early days



had become known. Evidently not. Since it has been discovered that Dr. Heale was a passenger on the Mayflower the question is repeatedly asked why did Bradford, the pilgrim historian of Plymouth, remain silent as to Dr. Heale's presence and service? Some think that the reason for the silence was intentional and due to the fact that Doctor Heale had no connection with the pilgrim church. He seems to have belonged with the non-religious, non-sympathetic minority who made the voyage with the pilgrims.

---

### LAYMEN DICTATE THE PRACTICE OF MEDICINE

Physicians attempt today to practice medicine enmeshed by hampering laws dealing out such unscientific encumbrances as lay dictation of the prescription of narcotics and alcohol; with care of maternity; workman's compensation; medical publicity and education under the control of commissions or councils, or committee bureaucracy! Yet the sincere physician may wonder why Christian Science, chiropractors and the fifty-seven varieties or more of endless cults have taken advantage of this muddling, confusing and maligning of decent medical practice and are allowed to proceed practically without molestation.

Suggestion has been made that the doctors at large might as well go "whole hog" and turn medical science and medical progress over to "uplifters," and panacea promoters, and self-satisfied non-medical directors of medical destinies in general.

How much longer must this condition be tolerated? Serious consideration should be given as to where the commission power in government is thrusting the medical profession and the public generally. The narcotic situation affords an elucidative example of the tendency of the times. This shows up plainly the commission government that made possible such conditions as the present that is inexcusable, inimical and retroactive. This narcotic drug faux pas illustrates beautifully the dangers of commission government in lay existence and especially in crises that demand scientific handling. Arbitrary control of rules and regulations and interpretations by appointed officials is all wrong. Equally evil is arbitrary control of publicity by these same forces often putting over

personal interpretations in the guise of legislative enactments and crushing out the honest and competent work and thought of many individual workers. The hour has struck when the profession and the public should unite in a campaign to annihilate current Prussianistic abuses, before these completely demolish self respect and self determination in an honored profession, hamper progress, lessen respect in the eyes of the public, and interfere with the proper care of the sick.

---

### DE KRUIF ACCUSED AGAIN OF MAKING SPURIOUS AND MISLEADING STATEMENTS

A few years ago the doctors and bacteriologists of this country were maliciously attacked by one Paul De Kruif.

He has published a new book called "Microbe Hunters." In this work Kruif refers to a number of investigators, but his statements are so spurious, erroneous and misleading (not to say untrue and libelous) that five of the men to whose investigations he makes reference have taken occasion to refute his writings publicly, in the *Lancet* for October 2, 1926. These authorities are Drs. Aldo Castellani, George C. Low, David Nabarro, Ronald Ross and Cuthbert Christy.

De Kruif has gained much notoriety by his publications upon medical subjects and it is an advantage to know how little reliance can be placed upon what he says according to this paragraph.

---

### FINAL REPORT, LEGISLATIVE COMMITTEE, ILLINOIS STATE MEDICAL SOCIETY

There were 1370 bills introduced in the 55th General Assembly. Out of that number 120 engaged the attention of the Illinois State Medical Society. Therefore, about ten per cent of all the bills introduced are of more or less interest to the medical profession.

There were some forty-five pernicious bills, specifically designed to lower the educational requirements of those who desire a license to treat the sick in the State of Illinois. The following drugless groups were thus represented: osteopaths, chiropractors, naprapaths, naturopaths, physiotherapists, masseurs, and sanatologyists,

and to this group must be added the homeopaths who also endeavored to get a separate board for their particular therapy.

With the wonderful cooperation of nearly all the County Medical Societies, coupled with the individual efforts of several hundred physicians, your Legislative Committee was enabled to defeat each and every measure which the Illinois State Medical Society opposed.

However, it has been a tremendous task, for it is surprising the number of Legislators who, after receiving treatments (gratuitously rendered, of course) from the various drugless healers, are willing to stand on the floor of the House or Senate and extol the virtues of the individual cult which they favor.

Last Thursday when the Drugless Science Bill, known as House Bill 619, was being considered, Judge Truman A. Snell of downstate, in a most excellent address upholding the Medical Practice Act, made these remarks: "If this bill becomes a law it will be because it was massaged through the Legislature, and it is about time for this lawmaking body to forget special privilege measures when it comes to a thing so vitally important as the treating of disease in this state." Further, he said:

"We should be considering measures for the protection of the public, and not for the protection of physicians, surgeons, osteopaths, chiropractors, etc. It does not follow that if a naprapath, sanatologist, etc., succeeds in getting an excellent result in any disease that a special law should be passed to allow this particular group to become licensed." And in closing he added:

"There is a present law which takes in every known kind of drugless therapist, irrespective of what name he calls himself, and this House has gone on record as opposing the ever increasing demands of the great number of drugless groups to have their own laws, and who are always harping on the fact that it is the jealousy of the medical men that denies them the things they are entitled to. They are continually endeavoring to exchange education for legislation, and I vote 'no.'"

Owing to the great number of bills offered by the cultists, your Legislative Committee has been almost constantly engaged in watching these measures as they progressed in the Legislature. While it is true that several groups were

not well organized, and their bills did not cause great concern, nevertheless this session has brought forth the greatest onslaught that has ever taken place in Illinois—brought on by the cultists against decent regulatory laws regarding the practice of medicine.

A member of your Legislative Committee appeared at fifty-six different committee hearings. It is true that some of them lasted but a few minutes, but a number of them went into many hours of discussion, and as above indicated, the defeat of all measures inimical to the public health is due entirely to the combined efforts of the officers and councillors of the Illinois State Medical Society.

Special credit is due to Dr. J. C. Krafft, our Past President, and Dr. J. S. Nagel, Dr. R. R. Ferguson, and Dr. S. J. McNeill, the councillors for Cook County. It is to be recalled that Cook County represents practically one-half of the physicians in the State of Illinois, so that the services of these gentlemen have certainly been pivotal in the results gained. All downstate councillors have always been ready to aid your Legislative Committee in every way possible.

Bulletin service has been resorted to as in former years the mailing list being composed of almost one thousand physicians in the State of Illinois, who were willing to lend a portion of their time in defeating the above mentioned legislation.

The osteopaths, chiropractors, naprapaths, and masseurs were the best organized of the above groups. Each of them had their attorneys as well as large lobbies on guard practically every legislative day since January. It is a well known fact that certain groups spent large sums of money in an effort to have their particular bills enacted.

At one time the situation was so critical that it really looked as if the chiropractors would be successful, and in one week alone your Legislative Committee sent out over five thousand letters to physicians in the State to bring all possible pressure in their districts against the measure.

In the number of years that the writer has represented the Illinois State Medical Society, as the resident member of the Legislative Committee, he has never seen such a wonderful co-operative spirit as was evidenced by the physicians throughout the State. Literally



thousands of protests were showered on the members of the House of Representatives and many hundreds of interviews were held with the legislators over the week-ends prior to the vote.

It is now a matter of history that the chiropractors were dealt the most ignoble defeat that any bill can receive, it having been wiped off the calendar on second reading—the enacting clause being stricken—which killed the bill for the entire session. The proponents of the bill had labored diligently and NOT WITHOUT EXPENSE, because they had salaried attorneys as well as a large paid lobby in Springfield throughout the session, which was without avail on account of the well-timed opposition by the Illinois State Medical Society.

Representative Calvin Weeks, the proponent of the Chiropractic Bill, in a good-natured interview with the Chairman of your Legislative Committee, said that he was chagrined and surprised that the bill did not go to third reading, and that he, individually, was disturbed because he did not get to deliver a powerful speech against the doctors and in favor of the drugless healers. At the solicitation of your Chairman he was told to deliver his oration when House Bill 619, the Naprapathic Bill, was called, and he agreed to do it.

Your Chairman had the pleasure of listening to that harangue last Friday, and it was a "jim-dandy." When he was through, the roll was called, and instead of the seventy-seven votes necessary to pass the measure, it received but eighteen. Thanks were extended to Mr. Weeks for his speech, by your Chairman, who really believes that it did more in defeating the bill than the combined efforts of your Legislative Committee and the Illinois State Medical Society.

Your Chairman attributed the favorable attitude of the present Legislature to the education that the lawmakers received from the medical men during the session. Physicians must realize that drugless healers are here, and here to stay, but it is a well known fact that they can be regulated and brought under decent laws, just so long as the doctors of the State of Illinois will be tolerant and open minded, and not make scornful remarks about them when attempting to influence legislators, as it is surprising the number of Senators and Representatives who really resort to drugless therapy for minor ailments.

The Legislative Committee of the Illinois State Medical Society is deeply appreciative of the excellent help of the officers and councillors of the Society, and gratefully acknowledges the use of the columns of the Illinois State Medical Journal, as freely offered by the editor, Dr. Whalen, and desires to make mention of the consistent and able work of the County Legislative Committees. Our work this year has resulted in an outstanding success which was only attained by the cooperation of the above mentioned groups and individuals.

C. E. HUMISTON, M. D.

EDWARD BOWE, M. D.,

J. R. NEAL, M. D.,

Legislative Committee.

#### WORK OF THE EDUCATIONAL COMMITTEE

FROM JANUARY 1 TO MAY 12, 1927

Seven counties in the state have made definite use of the service offered through the Educational Committee during these four and one-half months. The other counties have made use of the service indirectly.

Eighty-eight requests for speakers have been filled. The members of the Speakers' Bureau have appeared before such groups as Kiwanis, Lions, Rotary, Optimist Clubs, Women's Clubs, Churches, Parent-Teacher Associations, Teachers' Institutes, Home Bureaus, Y. M. C. A., Y. W. C. A. groups, and Boy and Girl Scouts.

A Speakers' Bureau of colored physicians and another of foreign speaking physicians have been organized in order to widen the circle reached through health talks.

Thirty-nine newspapers are using the health articles released from the office of the educational committee as a regular feature. These articles appear in all cases under the signature of the local medical societies.

Eight hundred health articles have been released to the newspapers in the state.

Fifty-nine radio programs have been arranged for over stations, WGN, WHT, WLS, WMAQ and WQJ. Reports have come from Wisconsin, Iowa, Michigan and Indiana as well as from many parts of Illinois commending these programs most highly.

Forty-two moving picture films have been scheduled for use by lay groups. These have been obtained from State Department of Public

Health, The American Dental Association, the University of Wisconsin, and The Society for Visual Education.

Five communities have had splendid poster exhibits in connection with special health day programs through the courtesy of the Educational Committee.

Cooperation has been given to certain projects of the State Department of Public Health, such as furnishing speakers, films and poster exhibits for various groups during Health Week.

The committee has worked with the Illinois Federation of Women's Clubs in urging club women to cooperate with county medical societies in all health activities. Letters have been sent out emphasizing the importance of educating the public on the subject of "cancer."

Approach has been made to all county societies where baby conferences have been held in cooperation with the Child Hygiene Division of the State Department of Public Health. Through this introduction county societies will work out their own plans with the Child Hygiene Division.

The committee serves as a clearing house in making contacts with lay organizations.

During National Baby Week programs were arranged and speakers supplied for several department stores in Chicago. Special radio talks were also given by physicians and dentists.

One hundred dentists were given complete physical examinations at the Drake Clinic held in January.

Twenty-five physicians were examined at the state meeting at Moline in May.

The Educational Committee will be glad to send speakers to appear before any lay audiences whom you may be able to interest in this service.

#### CHANGE OF PERSONNEL OF THE EDUCATIONAL COMMITTEE, ILLINOIS STATE MEDICAL SOCIETY

Formerly this committee was known as the "Lay Educational Committee." The committee formerly had a director. Beginning 1927 the word "Lay" was dropped from the title and the title of the supervising officer was changed from director to secretary. The secretary of the committee is Miss Jean McArthur.

Miss B. C. Keller resigned in December, 1926, and is no longer connected with the State Society.

Persons wishing information or data relative

to the workings of the Educational Department of the State Society will please communicate direct with the "Educational Committee, Illinois State Medical Society," 185 North Wabash Ave., Chicago, Illinois.

#### BACK NUMBERS OF THE JOURNAL WANTED

We need a number of copies of the April, 1926, issue of THE ILLINOIS MEDICAL JOURNAL. A few libraries over the country have written in asking for this number of the Journal. Being unable to meet the supply from our files we are appealing to members of the profession who do not bind their journals to help us out.

Kindly direct communications to the ILLINOIS MEDICAL JOURNAL, 25 East Washington St., Chicago, Illinois.

#### AN APPRECIATION FOR DR. TIVNAN

Dr. Richard J. Tivnan, of Chicago, on June 5 had conferred upon him the degree of Doctor of Laws by the University of Notre Dame, Notre Dame, Indiana.

Dr. Tivnan had the same degree conferred upon him two years ago by Loyola University.

#### AN APPRECIATION OF THE WORK OF DR. JOHN R. NEAL

Chicago, June 25, 1927.

Dr. J. R. Neal,  
Chairman, Legislative Committee,  
Illinois State Medical Society,  
Springfield, Illinois.

My dear Doctor Neal:

I have just finished reading your final bulletin with much satisfaction as usual. You give everybody just credit except the gentleman who deserves it most. With characteristic modesty you disclaim the credit to which you are so justly entitled and as one member of the Illinois State Medical Society, I want to express my appreciation to you personally for the splendid work you have done, without which the chiropractic bill would probably now be a law and the years of effort of organized medicine put to naught. For this splendid work at least accept my sincerest thanks.

I beg to remain,

Very sincerely yours,

EDWARD H. OCHSNER, M. D.



# ILLINOIS STATE MEDICAL SOCIETY OFFICIAL MINUTES OF THE SEVENTY- SEVENTH ANNUAL MEETING

## PROCEEDINGS OF THE HOUSE OF DELEGATES

*Moline, May 31, 1927*

The first meeting of the House of Delegates of the Illinois State Medical Society was called to order at 9:25 P. M., May 31, 1927, by the President, Dr. Mather Pfeiffenberger.

The President: I will ask the Secretary to call the roll.

The Secretary called the roll and announced that a quorum was present.

The President: The next order of business is the report of the Credentials Committee.

Dr. R. R. Ferguson, Chicago: The Credentials Committee has certified 104 delegates, 58 down state and 46 Chicago Medical.

The President: The next order of business will be the reading of the minutes of the last meeting.

Dr. W. D. Chapman, Silvis: I move that the minutes be approved as published in the October, 1926, issue of the JOURNAL. (Motion seconded and carried.)

The President: We will now have the report of the Secretary.

## REPORT OF THE SECRETARY

### *Members, House of Delegates:*

Your Secretary reports the collection of the following sums for the balance of the year 1926, and first four months of 1927, covering the year beginning May 1, 1926, and ending April 30, 1927. The first figure read being from May 1 to December 31, 1926, and the second from January 1 to April 30, 1927.

Adams .....	\$ 20.00	\$ 528.00
Alexander .....	168.00	.....
Bond .....	89.00	96.00
Boone .....	40.00	104.00
Bureau .....	48.00	160.00
Carroll .....	152.00	.....
Cass .....	64.00	72.00
Champaign .....	32.00	616.00
Chicago Medical Society.....	12,296.00	24,914.00
Christian .....	56.00	.....
Crawford .....	184.00	184.00
Clark .....	40.00	96.00
Coles-Cumberland .....	.....	304.00
Clay .....	48.00	.....
Clinton .....	80.00	8.00
De Kalb .....	184.00	176.00
De Witt .....	16.00	128.00
Douglas .....	77.00	.....
Du Page .....	386.00	224.00
Edgar .....	32.00	.....
Edwards .....	8.00	32.00
Efingham .....	176.00	165.00
Fayette .....	8.00	.....
Ford .....	16.00	64.00
Franklin .....	330.00	320.00
Fulton .....	48.00	341.00
Gallatin .....	.....	48.00
Greene .....	8.00	160.00
Hancock .....	64.00	104.00
Hardin .....	.....	.....
Henry .....	296.00	240.00
Henderson .....	40.00	8.00
Iroquois .....	71.00	96.00

Jackson .....	37.00	256.00
Jasper .....	8.00	.....
Jefferson-Hamilton .....	48.00	192.00
Jersey .....	40.00	.....
Jo Daviess .....	116.00	32.00
Johnson .....	56.00	.....
Kane .....	125.00	416.00
Kankakee .....	32.00	304.00
Kendall .....	8.00	56.00
Knox .....	96.00	120.00
Lake .....	230.00	344.00
La Salle .....	64.00	392.00
Lawrence .....	190.00	144.00
Lee .....	128.00	200.00
Livingston .....	342.00	.....
Logan .....	48.00	.....
McDonough .....	80.00	120.00
McHenry .....	200.00	.....
McLean .....	247.00	408.00
Macon .....	648.00	328.00
Macoupin .....	253.00	72.00
Madison .....	48.00	760.00
Marion .....	143.00	176.00
Massac .....	96.00	.....
Mason .....	96.00	.....
Menard .....	37.00	16.00
Mercer .....	90.00	120.00
Monroe .....	64.00	32.00
Montgomery .....	29.00	184.00
Moultrie .....	61.00	48.00
Morgan .....	72.00	104.00
Ogle .....	172.00	.....
Peoria .....	677.00	616.00
Perry .....	8.00	136.00
Piatt .....	.....	.....
Pike .....	64.00	40.00
Pulaski .....	8.00	48.00
Randolph .....	37.00	136.00
Richland .....	88.00	.....
Rock Island .....	80.00	520.00
St. Clair .....	896.00	872.00
Sangamon .....	80.00	840.00
Schuyler .....	.....	80.00
Scott .....	65.00	.....
Shelby .....	24.00	64.00
Saline .....	96.00	.....
Stark .....	80.00	.....
Stephenson .....	40.00	272.00
Tazewell .....	96.00	128.00
Union .....	56.00	152.00
Vermilion .....	349.00	376.00
Wabash .....	85.00	24.00
Warren .....	192.00	192.00
Wayne .....	138.00	16.00
Washington .....	16.00	112.00
White .....	112.00	112.00
Whiteside .....	240.00	.....
Will-Grundy .....	685.00	480.00
Winnebago .....	728.66	661.00
Woodford .....	16.00	120.00
Williamson .....	16.00	280.00
Exhibits .....	867.50	807.50
Subscriptions .....	166.00	54.50
Periodic Blanks .....	4.00	1.00

Total .....\$24,991.16 \$41,152.00

The figures reported as May to December, when added to the receipts reported to the House of Delegates covering the first four months of 1926, makes the total for the entire year of 1926:

Receipts from County Societies.....	\$54,638.66
Subscriptions to Journal, etc.....	244.00
Exhibits .....	1,810.00

Total .....\$56,692.66

From May 1, 1926, to May 1, 1927, a total of 276 vouchers were issued for the sum of \$61,275.25. These were divided as follows:

General expense .....	\$36,267.97
Medico-legal expense .....	8,416.61
Legislative expense .....	2,055.14
Educational Committee expense.....	14,535.53

\$61,275.25

Of the general expense, the sum of \$14,256.00 was spent for printing the ILLINOIS MEDICAL JOURNAL during the year.

Members in good standing May 4 1926 .....	6,894	
Members dropped by death.....	97	
Members dropped by non-payment and removal .....	443	
	—	
Removed .....	540	540
	—	
	6,354	
New members .....	632	
Reinstated .....	261	
	—	
	893	893
	—	
Membership May 1, 1927.....	7,247	

This shows a gain of 353 members during the past year.

An audit of the Secretary's and Treasurer's account was made for the year ending May 1, 1926, by Fred N. Setterdahl, of Rock Island, and reported to the Council in September, 1926. The audits verified the reports of the Secretary and Treasurer, as read before the House of Delegates at the Champaign-Urbana meeting last year, showing the same to be correct. Your Secretary is of the opinion that the Annual dues should remain the same as they are now, \$8.00 per year.

After checking over the various activities of the Various State Societies, it is our opinion that the Illinois State Medical Society is doing more constructive work for the amount of dues paid, than any other similar organization.

The work of the Educational Committee should continue, and after the three years of its operation, it is no longer experimental, but a proven necessity, and at this time is being managed both efficiently and economically. The Scientific Committee, a sub-committee of the Educational Committee, is filling a long needed purpose, and the work should be encouraged. Our Legislative Committee and Medico-legal Committee have been functioning most satisfactorily, and the members of both committees should be commended by the Society.

During the past few months the Society has suffered a great loss in the death of our Chairman of the Medico-legal Committee, Bruce King. Dr. King was for many years very intimately associated with all of the constructive activities of the Society, and managed the affairs of his committee with an unusual degree of skill and diplomacy, the results of this being shown by a contrast of the Committee's reports today with those of a few years ago. During the past year, the Component Societies' Secretaries have cooperated with your Secretary better than ever before, and we wish to take this opportunity to thank them collectively, and also to urge the County Societies to select their Secretaries carefully, and to continue them in office so long as they maintain their efficiency.

Respectfully submitted,

HAROLD M. CAMP,  
Secretary.

(It was moved that the report be adopted. Motion seconded and carried.)

The President: We will now have the Treasurer's report.

#### REPORT OF THE TREASURER

Dr. A. J. Markley, Treasurer

For the period May 15, 1926, to May 28, 1927:

	General Fund	Medico-Legal	Legislative
Balance May 15, 1926.....	\$12,148.08	\$10,563.62	\$ 9,045.62
Received from Secretary.....	30,323.93	17,055.20	11,368.53
Received from Journal.....	14,000.00	.....	.....
Interest .....	1,033.95	.....	.....
Transferred from Legislative Fund .....	5,000.00	.....	.....
Transferred from Medico-Legal Fund .....	5,000.00	.....	.....
	\$65,505.96	\$27,618.82	\$20,414.15
Vouchers cashed .....	51,033.54	14,021.11	3,464.90
		\$13,597.71	\$16,949.25
Transferred to General Fund. ....		5,000.00	5,000.00
Balance on hand.....	\$14,462.42	\$ 8,597.71	\$11,949.25
Total of the three items	\$35,019.38		

In addition to this sum of \$35,019.38, there is deposited to the credit of the Society in the State Bank and Trust Company of Evanston the sum of \$15,000.00, which is drawing three per cent. interest.

(It was moved that the report be accepted. Motion seconded and carried.)

The President: The next order of business will be the report of the Chairman of the Council.

#### REPORT OF THE CHAIRMAN OF THE COUNCIL

DR. W. D. CHAPMAN: The Council reports having reports having held five meetings since the last meeting of the House of Delegates. Business for the most part has been routine. We have had occasion to thank God for a short term of Congress and for a session of the State Legislature which was occupied with affairs other than affairs of public health. In the latter phase the Council has depended largely upon the advice of the Legislative Committee of the House of Delegates of which Dr. John R. Neal is Chairman. The House will hear a report from Dr. Neal on behalf of that Committee later.

Of special interest and importance is the work of the Educational Committee. That work for a period of three or four years was largely experimental but gradually crystallizing to take definite shape. During the past year it has seemed proper to make it a definite crystallization. The work of the Educational Committee has been limited to five special points: The maintenance of a speakers' bureau; conducting radio talks; contacts with social lay organizations and newspaper service. That with a sub-committee dealing with service for the county societies makes up the last of the five points which are now receiving the undivided attention of the Educational Committee. It may be a bit irregular but with the consent of the House, I would like to ask the Chairman of that Committee to assist in making that report.

The Council has been of service in straightening



out differences between members and their component societies. In the three cases that have come to the attention of the Council it has been possible to smooth out the difficulties without appeal. The Council feels much gratified that such has been possible.

Through the year it has been our misfortune to lose one Councilor. Dr. H. P. Beirne of the Sixth District presented his resignation which was accepted at the last meeting before the present one.

At the last session of the House of Delegates a resolution was presented asking for investigation and information concerning the possibility of increasing the number of postmortem examinations in public institutions. This matter was referred to the Council for investigation and action. The Council now reports that having investigated the matter among the state institutions and in institutions engaged in similar research that it is the consensus of opinion that failure to obtain postmortems seems to be a matter of lack of cooperation between the medical staffs and the superintendents of those institutions. The matter is referred back to the House of Delegates. I think the resolution originally came from the Section on Eye, Ear, Nose and Throat, with the recommendation that legal action be taken so that greater cooperation be afforded between superintendents and medical staffs of hospitals.

The Council recommends the adoption of a resolution condemning the legislative practice of medicine as related to the ruling regarding the national prohibition law, namely, "the decision of the Director shall have the full force and effect of law." You remember the narcotic law contains such a phrase and the prohibition law contains such a phrase and the result has been frequently demonstrated to our sorrow. An example would be a condition existing at present: A short time ago any one who wrote a prescription for alcohol could be fined or imprisoned or both if he left off the name of the druggist. At the present time any one who chances to write such a prescription can be fined, jailed or both for putting the name of the druggist on the prescription. The point at issue is that phrase which is contained in some of the legislative acts, stating that any ruling of a Director shall have the force and effect of law. The Council recommends that a resolution be issued from this House protesting against the practice of medicine by legislation.

The Council recommends action by this House upon a matter which has been brought before us repeatedly in recent years, namely, the formation of a Woman's Auxiliary to the Illinois State Medical Society.

The work of the Council has been very pleasant all through the year, congenial from every quarter and with a minimum of differences. With the permission of the House I would like to ask Dr. Ferguson to amplify somewhat our report concerning the activity of the Educational Committee. Dr. J. H. Hutton as acting on the subsidiary committee.

## REPORT OF THE EDUCATIONAL COMMITTEE

DR. R. R. FERGUSON, Chicago: It seems almost superficial to spend much time in informing you of the work of the Educational Committee. It has grown from one of the insignificant works of the House of Delegates into one of the most important the State Society is now doing. I am simply enlarging on this to give you an idea of what is being done. It has been taken up in the Secretaries' Conference and it has been spoken of by the Secretary and by the Chairman of the Council. When I complete the report I will ask Dr. Hutton to say a few words.

This is a report from January 1 to May 15, 1927:

*Speakers' Bureau:* Eighty-eight appointments have been made for medical speakers before lay audiences between January 1 and May 15, 1927. It must be remembered that the great majority of requests for speakers come in the fall and early winter. The club season is practically over with in April.

An effort has been made to secure the interest of as many organizations as possible in making use of this service. Letters have been sent to men's clubs throughout the state, Home Bureaus and Young Men's Christian Associations. Announcement of the speakers' bureau has been given in the Kiwanis bulletin, the speakers' handbook of the Parent-Teacher Associations, and will be made to the Illinois Federation of Women's Clubs.

Satisfactory reports have come from churches, clubs, schools, business men's associations, etc.

A speakers' bureau of colored physicians and another of foreign speaking physicians have been organized in order to widen the circle of groups reached.

*Newspapers:* About 800 health articles have been released to the press in these four and one-half months. All of these have been censored by the Committee and rechecked by the local medical society before being released. Average of four new articles written each week.

Thirty-nine papers are using these articles as a regular feature once or more a week. Favorable comments have been received from physicians as well as the laity regarding the educational value of these articles. Over \$7,000,000.00 worth of paper is used every Sunday in the Sunday newspapers—perhaps there is even more opportunity to give to the public what they want in readable, valuable information regarding medical science, and preventive medicine.

When a particular disease is prevalent in any locality, press articles of educational value on that disease are sent to local papers.

In addition to these regular articles, when speakers are sent to appear before groups, press articles are sent to the local papers regarding the meetings.

Follow-up work in interesting editors to use material sent out from the Educational Committee office will be continued.

The *Chicago Herald and Examiner* is cooperating with the Committee on a series of articles which are to appear under the heading of the Educational Committee of the Illinois State Medical Society and signed

by the physician writing the article. Splendid cooperation has been given by the physicians and there are thirty-five articles ready to be used by the *Herald and Examiner*. Such subjects have been covered in a most interesting and educational fashion—A Brief History of the Chicago Medical Society; Progress in Medical Education; The Progress of Orthopedic Surgery; The Premature Infant; Prenatal Care; Infantile Paralysis; Periodic Health Examination; Goiter; The Endocrines. This series is to be run indefinitely.

**Radio:** Fifty-nine radio talks have been arranged. Stations used have been WHT, WLS, WMAQ, WQJ, and WGN. Talks in every case are announced as being sponsored by the Educational Committee of the Illinois State Medical Society. Plans are being made for regular series over more stations in the fall.

Reports have come from Wisconsin, Iowa and Michigan as well as from many sections of Illinois regarding helpfulness of these talks and asking in many instances for copies of particular talks and at other times asking that copies be sent to friends without radios.

In every case the papers read, either directly or indirectly, advise people to consult their physicians promptly and not to trust to their own judgment in diagnosing their ailments, whatever they may be.

The radio is probably one of the greatest avenues for influencing the public and a great deal can be accomplished in giving the right kind of information.

**Scientific Service:** (Dr. Hutton giving complete report.)

Thirteen counties have made use of the Scientific Service. Illinois is one of the few states offering such service to component groups of the State Society.

One hundred dentists were given complete physical examinations at the periodic health examination demonstration at the Drake Dental meeting in January.

Examinations are being given at this State meeting.

**Work With Other Organizations:** Cooperated with the State Department of Public Health during Health Week in furnishing speakers, films, poster exhibits for different groups.

Having cooperated with the Illinois Federation of Women's Clubs in sending out letters on cancer and urging club women to cooperate with county medical societies in all health matter.

Approach has been made to all county societies where baby conferences have been held in cooperation with the Child Hygiene Division of the State Department of Public Health. Through this introduction, plans will in every case be made according to the willingness of the county societies.

**Miscellaneous Health Education Works** Forty-two films were scheduled to lay organizations.

Five communities have had assistance in arranging special posters exhibits.

Special programs were arranged for several stores in Chicago during National Baby Week. Talks were given by physicians and dentists before the patrons of these stores. Radio programs were also planned.

DR. J. H. HUTTON: This is supplementary. The

report was accepted by the Council. This subsidiary committee was created with the object among others of supplying the county societies with speakers, especially in the locations in which it was difficult to secure speakers. The entire state was consulted in getting a list of suitable subjects and also a list of speakers. At present we have a list of 157 subjects and fifty-one speakers. We felt that by scattering it over the state there would be a maximum of interest and stimulation. Where it has been found that more interest would be stimulated by clinics rather than the reading of papers, clinical meetings were provided.

The report as presented to the Council follows:

#### REPORT OF THE SCIENTIFIC SERVICE COMMITTEE

At the September, 1926, meeting of the Council the Scientific Service Committee was appointed. In the resolution which created this committee no objective was stated which this committee was to accomplish. It was assumed among other things that the committee would attempt to supply county societies with speakers; particular effort being made to serve small counties where, because of their geographical location or the smallness of their membership, they had deemed it difficult to secure competent people. With this in mind the first effort was directed toward securing a list of subjects which it was hoped would be of interest and value to county societies. At the same time we attempted to secure a list of competent speakers.

At the present time we have listed fifty-seven subjects and one hundred and fifty-one speakers. All parts of the state were consulted in compiling the list of speakers and subjects. It was hoped by having speakers at various points over the state that the expenses of this service would be minimized and that more men would have a active interest in it because of their active participation in it.

Later it was found that interest would be stimulated in some quarters by presenting certain subjects by clinics. This has been done in a number of places and seemingly is always successful.

It has seemed to some men that this service might be used to stimulate intensive study of certain phases of medicine by county societies. For example, the mortality and morbidity in obstetrical cases are rather higher than ought to be and it is believed that if each county society devoted at least one meeting per year to obstetrics that the public and the profession would be gainers thereby.

The crippled child presents a considerable problem in Illinois and it is likely that the study of orthopedics, especially that phase of it having to do with crippled children, would assist in the solution of this problem.

The so-called "nervous" patient is another problem about which most of us know little and if our neuro-psychiatrists were invited to teach us some of the simpler things in their specialty we would be acquiring something of value.



As most of you know, the subjects offered to county societies have been arranged under the headings of medicine, surgery, orthopedics, neuro-psychiatrics, and tuberculosis.

Drs. W. H. Holmes, Andy Hall, A. A. Goldsmith, J. G. Carr, and Don C. Sutton arranged the section on medicine.

Drs. Don Deal, George Thompson, and Harry C. Moss arranged the work in surgery.

Drs. Philip H. Kreuscher, Sidney Easton, Philip Lewin, and Ralph Pearis arranged the work in orthopedics.

Drs. David S. Hillis, W. C. Danforth, D. D. Smith, F. L. Heinemeyer, and A. E. Williams arranged the work in obstetrics.

Drs. Maurice Blatt, Clifford Grulee, Julius H. Hess, H. E. Irish, and J. C. Krafft, the work in pediatrics.

Drs. Robert Hayes, Robert Bosworth, C. M. Jack, Roswell T. Pettit, Clarence Wheaton, and W. H. Waterson looked after the work in tuberculosis.

Thirty-one speakers have been sent to sixteen counties. Union County has had four meetings, Marion County two, DeWitt County two, Moultrie County two, Iroquois County three. Moultrie County, by the way, holds the world's record for attendance, having a membership of six and at their last meeting they had an attendance of twenty-four.

Money spent to date, \$279.60. Occasionally the county society pays the speakers' expenses. More often the Committee has done so. A good many speakers have not presented a bill but in no case has a speaker been asked to go far without having his expenses guaranteed. The wisdom of continuing paid speakers out of the State Society fund is a matter to be discussed either here or perhaps later in the Council, but it is a matter of which a definite policy will have to be established sooner or later.

The committee has written the secretaries of every other state society regarding postgraduate work done by their societies. We have had replies from thirty states. Eighteen are doing nothing along that line. Twelve are more or less active in this way. Some have well developed plans and seem to be doing valuable work for their members. It seems that we might copy some of those ideas in the work of our society. Some of the most valuable work cannot be duplicated here at this time for the reason that the state universities do much of the work in other states and our own university has no funds for such work. This is merely a statement of fact and not to be construed as a plea for any change in policy or appropriations for the university.

Without any great expenditure of money it is believed that we might follow the example of New York in establishing series of clinics in various hospitals where they might be desired by the men living in the territory served by the hospital. As yet this has not been done. It has been discussed by a number of men all of whom have favored the idea.

It is suggested that the committee might be of service in enlarging the size of some meetings held

at various places over the state. No active steps have been taken along this line. This is merely mentioned for the consideration of this body.

This committee has had the cooperation of practically every man approached. Men have given freely of time and energy who have previously given little to their state organization.

The chairman offers this report somewhat in a spirit of apology for the small amount of actual accomplishment. It seems to require considerable time to accomplish much along this line at best and a chairman innocent of ideas in this field seems not to have added much speed to the movement.

I wish to express my appreciation for the help given by every member of the society who have been approached.

The President: You have heard the report of the Chairman of the Council, what do you wish to do with it?

Dr. W. H. Maley, Galesburg: I move that the report be received and placed on file. (Motion seconded and carried.)

The President: The next order of business is the report of the Councilors.

#### REPORT OF THE COUNCILORS

1. Dr. D. B. Penniman, Rockford, reported for the First District as follows:

There is not very much difference in the condition of the First Councilor District from last year's report. However, it is encouraging. There is more enthusiasm and there are more members. There is more harmony. The younger men are coming to us and are teaching the old men new tricks. We are coming into a better era.

2. Dr. E. E. Perisho, Streator, reported for the Second District as follows:

I am pleased to report that all is well in the Second District, which is composed of Whiteside, Lee, Bureau, LaSalle, Livingston, Woodford, Marshall and Putman counties.

All these counties are well organized. About ninety-eight per cent. of all the active physicians are members of our society, and interested in medical organization, and well organized for legislature work, Lay Educational work, etc.

I have visited most of these counties one or more times during the past year and endeavored to keep them well posted as to the activities of the council and organized medicine. I have endeavored to keep in close personal contact with the officers of all county societies and assisted them in arranging their programs, etc. In general, most of their programs are made up of local talent, which I think is the best for the development of the local members and their society. Most of these societies have called on our scientific section of the Educational Committee for special speakers one or two times during the past year, which has been a great help to them on special subjects.

All of these counties are very much interested in the work of the Educational Committee and have asked for speakers for various club meetings in their respective cities. Several of these counties are making use of the lay press articles for their local newspapers.

A few of the larger cities that have hospitals have adopted regular hospital clinics, where they show cases, clinical records, x-ray and laboratory work. These clinics are followed by a supper and evening entertainment, with one or two special speakers. These hospital clinics have proven to be very interesting and instructive and well attended. Last fall I had a general conference of the officers of all the county societies with the officers of the Illinois State Medical Society, where we discussed county and state organization, county programs, etc., with Dr. Camp, Dr. Mundt, Miss Keller and others. This made a very interesting and instructive meeting with better and more definite ideas for their future programs for better county organization and their assistance to the State and American Medical Associations.

The physicians in my district are all very much interested in our legislative work and each county is well organized to assist Dr. Neal in this work.

3. Dr. R. R. Ferguson, Chicago, reported for the Third District as follows:

The Chicago Medical Society desires to report the best year it has ever enjoyed. We are increasing in numbers, over 4,200. We are a society that you downstate men should be as proud of as we are of you. Our branches and affiliated societies are also doing excellent work. Thank you.

4. Dr. W. D. Chapman, Silvis, reported for the Fourth District as follows:

The affairs of the Fourth District in an organization way are distinctly looking up. There is a tendency for more frequent meetings among all of our societies and better attended meetings. The spirit of good will and harmony has extended throughout the District. Last fall we had one District meeting to which all the county societies were invited and asked to take part and we felt that it had a good effect. The meeting was largely successful. One of our societies has felt so keenly proud of itself that it felt ambitious enough to entertain the seventy-seventh annual meeting of the Illinois State Medical Society. We find a spirit that has done that host society more good than anything that has happened to it in recent years.

5. Dr. S. E. Munson, Springfield, reported for the Fifth District as follows:

*DeWitt County*—Officers: Dr. George S. Edmundson, President, Clinton; Dr. W. R. Marshall, Secretary, Clinton; Delegate to State Meeting, Dr. W. R. Marshall.

Present membership .....	17
Number lost during the year.....	0
Number gained during the year.....	2
Number eligible in the county, not members.....	4

The first visit made to the DeWitt County Medical Society was in May, 1926. The Society was prac-

tically dead, having met only once during the year. It is now well organized and holding meetings every month, which are well attended, with interesting programs by local as well as outside talent. They are meeting their obligations to the public and to the welfare activities in the community.

The splendid work of this Society is largely due to the ability and personality of Dr. W. R. Marshall, the Secretary, as well as Dr. Chas. W. Carter, President for 1926, and Dr. George S. Edmundson, President for 1927.

The following is from the minutes of the meeting held February 11, 1927, in the afternoon and evening, at Clinton:

"A cardiac clinic was held during the afternoon, conducted by Dr. James G. Carr, Professor of Medicine, Northwestern University. A dinner was held in the evening at the Magil Hotel, after which the Society was addressed by Dr. S. E. Munson, Councilor of this district. This was Dr. Munson's official visit to our Society and he gave us some very good advice.

Dr. Isaac D. Rawlings, Director of State Board of Health, gave some statistics, telling us of the work of his department during his administration. We felt honored with his visit and hope to have him come again. Dr. Carr spoke on the many phases of heart conditions as found in every-day practice. He is a very able man and more than lived up to the many good things we had heard about him before."

*Ford County*—Officers: Dr. George A. Wash, President, Gibson City; Dr. H. W. Trigger, Secretary, Loda; Delegate to State Meeting, Dr. M. D. Peterson, Paxton.

Present membership .....	20
Number lost during the year.....	2
Number gained during the year.....	2
Number eligible in the county, not members.....	4

A meeting of the Ford County Medical Society was held at Gibson City, April 28, 1927, with lunch at 12:30 at the Lions' Club; ten members present. Program: "A Review of Some of the Work and Purposes of the County Medical Society," by Dr. S. E. Munson, Councilor of the Fifth District. "The Acute Abdomen," by Dr. Don W. Deal, of Springfield.

Instead of holding about two meetings a year, as formerly, it was decided to hold a meeting at least every two months, with call meetings in the interval, if programs could be provided. The meetings are to be alternated between Paxton and Gibson City, the men at each place arranging the program, with a dinner.

This Society, with their new President, Dr. George A. Wash, and Dr. H. W. Trigger, re-elected as Secretary, will no doubt be able to accomplish their plans for greater activity for the coming year.

*Iroquois County*—Officers: Dr. Horace Gibson, President, Sheldon; Dr. C. H. Dowsett, Secretary, Watseka.

Present membership .....	21
Number lost during the year.....	3
Number gained during the year.....	2
Number eligible in the county, but not members...	5



On April 28, 1927, the Iroquois County Medical Society was entertained by Dr. and Mrs. C. H. Dowsett at a six o'clock dinner. Dr. S. E. Munson, Councilor, gave a talk, followed by a round-table discussion on greater efficiency of a county medical society. One suggestion, the weekly or semi-weekly hospital conference, has been put into effect. The discussion emphasized the importance of greater effort upon the part of each member to assist in the social and scientific activity of the Society. It was thought best to have an exchange of meetings between Gilman and Watseka.

This Society is meeting monthly, with good programs, and is in an active and healthy condition.

*Mason County*—Officers: Dr. C. W. Cargill, President, Mason City; Dr. W. R. Grant, Secretary, Easton; Delegate to State Meeting, Dr. F. J. Corey, Havana.

Present membership .....	12
Number lost during the year.....	2
Number gained during the year.....	0
Number eligible in the county, not members.....	4

*Menard County*—Officers: Dr. Irving Newcomer, President, Petersburg; Dr. R. E. Valentine, Secretary, Tallula.

Present membership .....	7
Number lost during the year.....	1
Number gained during the year.....	0
Number eligible in the county, not members.....	1

A joint meeting of Mason and Menard County Medical Societies was held at Mason City, May 12, 1927. Most all the members of Mason County Society were present, with a few members from Menard. On account of the small membership of these counties, and the bad roads during the past winter and spring, there has been very little activity in these Societies.

The problem of better organizations and more frequent meetings of these Societies was the subject of a talk by Dr. S. E. Munson, Councilor, followed by a round-table discussion in which each member manifested the deepest interest, as expressed by their opinions. Joining in the discussion were Dr. A. L. Brittin, of Athens and Dr. E. P. Sloan, of Bloomington, past-presidents of the Illinois State Medical Society, and Dr. Don W. Deal, of Springfield. The responsibility of the County Medical Society to the State Legislature was discussed by Dr. John R. Neal, Springfield.

It was decided to hold more frequent meetings jointly, between these two counties, these to be held at Havana, Mason City and Petersburg. It was suggested by Drs. Corey and Stubenrauch, of Havana, that an all day picnic and meeting of these two Societies be held this summer at Havana, with probably an invitation to surrounding societies, and in the evening of this date, a meeting to be held at Mason City, the old home of President G. Henry Mundt, who is looking forward with pleasure to meeting his old friends and acquaintances.

*Tazewell County*—Officers: Dr. Samuel T. Glas-

ford, President, Pekin; Dr. N. D. Crawford, Secretary, South Pekin; Delegate to State Meeting, Dr. N. D. Crawford.

A visit was made by the Councilor to the Tazewell County Medical Society, at Pekin, with a dinner held at the hotel on the evening of May 12. Those present as guests were Dr. E. P. Sloan, Bloomington, Dr. John R. Neal and Dr. Don W. Deal, Springfield.

This Society has for many years, on account of its proximity to Peoria, depended on the programs given by the Peoria County Medical Society for their medical activity. Consequently, as a medical society it has not functioned well, either socially or scientifically.

At this meeting of May 12, officers were elected for the ensuing year, and dues collected by the secretary. This Society with the inspiration of the new President, Dr. Glasford, and the Secretary, Dr. Crawford, who is deeply interested in reorganization, promises to do better work this year.

*Logan County*—Officers: Dr. L. T. Rhoads, President, Lincoln; Dr. E. C. Gaffney, Secretary, Lincoln.

Present membership .....	16
Number lost during the year.....	14
Number gained during the year.....	1
Number eligible in the county, not members.....	20

The Councilor was invited by the Secretary of Logan County Medical Society, Dr. E. D. Gaffney, to attend their annual meeting, held at the Lincoln State School and Colony, May 19. A dinner was well attended, and a paper was presented by Dr. Francis E. Senear, Chicago, Head of the Department of Dermatology of the University of Illinois. Dr. S. E. Munson, Councilor, spoke in regard to more efficiency of the officers of the county medical society.

This Society has usually been one of the most live and active in the fifth district, but in the past year their meetings have been irregular, with less individual activity and interest of its members. This probably accounts for its diminished activity. The Society has a very energetic and active Secretary, and no doubt, will give a better account of itself next year.

*McLean County*—Officers: Dr. A. W. Meyer, President, Bloomington; Dr. Ralph P. Peairs, Secretary, Normal.

Present membership .....	73
Number lost during the year.....	6
Number gained during the year.....	6
Number eligible in the county, not members.....	10

This has always been one of the most active Societies in the fifth district and has accomplished some very worthy public activities during the past winter. This work and the results we hope to present at another time, when Dr. Peairs, the Secretary, has had an opportunity to report in detail, that it may be used as an incentive to the various activities of other societies in the district.

*Sangamon County*—Officers: Dr. M. G. Owens, President, Springfield; Dr. O. L. Zelle, Secretary,

Springfield; Delegates to State Meeting, Dr. A. C. Baxter and Dr. O. L. Zelle.

Present membership .....	117
Number lost during the year.....	2
Number gained during the year.....	1
Number eligible in the county, not members.....	15

This Society holds regular monthly meetings throughout the year, with good programs and well attended. The officers of the county societies of the district, attending the district conference held at the Abraham Lincoln Hotel, November 4, were entertained as guests at a dinner and meeting of the Sangamon County Medical Society.

The Society has outlined a program of activity in regard to toxin antitoxin immunization of all children of school age, vaccination against smallpox, including the perfecting of an organization under Dr. Don W. Deal, as chairman, to meet the cancer problem.

6. No report owing to resignation of Councilor.

7. Dr. I. H. Neece, Decatur, reported for the Seventh District as follows:

A review of the past year's activities in the Seventh Councilor District shows many hopeful signs of progress.

1. There seems to be an increase in interest in most of the local component societies.

2. The Scientific programs have been better attended and a better spirit of friendly cooperation has characterized the meetings.

3. The Inter-County meetings have been both encouraging and profitable.

4. Many of the counties have availed themselves of the medical material furnished by the Educational Committee for the local papers.

5. A better response from the various societies to appeals from the Legislative Committee indicate greater interest in organized medicine throughout the District.

6. Special mention is due the Secretary of the Educational Committee, who has rendered very valuable service in aiding the societies by securing speakers for lay groups.

7. The Scientific Service Committee has rendered valuable service by furnishing scientific programs for a number of the smaller societies and in some instances has arranged for all the meetings of the year.

The Secretaries' Conference in Shelbyville in October was well attended, seven of the twelve counties being represented. This Conference was followed by a scientific program sponsored by the Shelby County Medical Society.

8. Councilor not present.

9. Dr. Andy Hall, Mt. Vernon, reported for the Ninth District as follows:

Some of the counties in my district are having as good medical meetings as any counties in the state. There are two counties in my district that have no organization—in one there are only three active members and in the other four. Aside from these, the counties are organized throughout the District. In

one county with a membership of twenty-six, we have meetings regularly with an average attendance of thirty-five. In another county they have regular meetings with an average attendance of about forty physicians. In one other county they have regular meetings with an attendance of from twenty to thirty. Some of the other counties meet only twice per year.

So far as I know none of the counties in my district have called for talent from Chicago. The president of the state society has attended at least one meeting in my district and Dr. Bloodgood from Baltimore has attended two meetings in my district. We have called on St. Louis and East St. Louis for speakers from time to time, and this together with our local talent has furnished us with many interesting meetings.

10. Dr. J. S. Templeton, Pinckneyville, reported for the Tenth District as follows:

The Tenth District is composed of nine counties, as most of you know. We have one large county, St. Clair, with a strong society. There is an organization in each county. Some of them are not very active but we have had some very good meetings and have endeavored to get the counties to follow out the work of the State Educational Committee. We have had three outstanding meetings in the District. In November the secretaries and presidents were invited to meet with the officers of the State Society. Several of them responded and we had a splendid meeting, followed by a scientific program at night. Dr. Bloodgood, of Baltimore, visited East St. Louis and held a public meeting there which was a splendid affair. Another outstanding meeting was in honor of the fiftieth anniversary of Dr. Wiggins' entrance into the medical profession. We have not done any great things, but I believe there is a better feeling in the profession than there was a few years ago. I believe if we follow the outline the State Medical Society and the Educational Committee recommend, we will grow. I am hoping that it will not be long before our nine counties of the Tenth District will have active societies. I know the ladies' organization will help out. We hope soon to have them and we can then get the two organizations together. I believe from my experience that we should employ local talent, part time at least, for our programs.

The President: This completes the reports of the Councilors. If there are no objections they will be approved as read. The next is the report of the Editor, Dr. Charles J. Whalen, Chicago.

#### REPORT OF THE EDITOR

The ILLINOIS MEDICAL JOURNAL has enjoyed the most opulent of its twenty-eight years of existence.

This statement is based on an appraisal of influence, financial return, circulation and expressed approbation of the professional tenets upheld by the editorial policies of the magazine. Today the ILLINOIS MEDICAL JOURNAL is more widely read and more frequently quoted than during any other period in its history. Further doctrines and policies affecting the profession



and the conservation of its interests, that were first boldly espoused by the ILLINOIS MEDICAL JOURNAL, are now championed by the bulk of the professional press. Even the lay press is beginning to take cognizance of the necessity of the platform we had advocated for conservation of medical ethical rights for the sake of the public welfare. This in itself is a victory for any periodical, literally a victory that money could not buy.

The ILLINOIS MEDICAL JOURNAL is beginning to enjoy the fruits of its pioneer campaign for the resumption of the rights of the doctor as a citizen as well as a scientist. As Salmon Portland Chase wrote to Horace Greeley, "The only way to resumption is to resume." When the doctor shall have regained all his rights as a citizen, the lay dictation of medicine will have ceased. Physicians will not be run by dry-goods merchants, any more than dry-goods merchants are now run by physicians.

Speaking briefly some of the many evils against which the ILLINOIS MEDICAL JOURNAL has crusaded during the past year are:

1. Attempts by Congress and State legislatures to dictate therapeutic procedures. Diagnosis, dosage and demand should be regulated by scientific judgment in all its flexibility rather than by inflexible, legislative statute.

2. Attempts by lay organizations and individuals, and by capitalistic foundations to effect arbitrary control and supervision of disease, and of the sick and ailing to the elimination of the physician as an individual, or as a unit in a purely scientific society, such as a city or county or state medical society or its divisional.

3. Attempts at fiat legislation that interfere in any way with the proper practice of medicine.

4. Attempts by politicians, misguided, ignorant or malicious, as the tools of cults, quacks and charlatans, to write upon the statute books of any state, county or city, legislation that will permit any impostor to enter the practice of medicine or in any way to assume care of the sick or ailing.

5. Attempts by corporations to act as intermediaries between physician and patient and thus eliminate the benefits to the patient of a direct contact with the medical advisor.

6. Attempts through various agencies to take from the hands of the family physicians, aided if necessary by a local specialist, the requisite periodic health examination.

7. Attempts to effect an indirect medical service anywhere and in any way through a third party.

8. Attempts to install an over-centralization of medical authority with all the dangers and destructive influences attendant upon such non-American bureaucracy.

9. Attempts to create a federal despotism or a modified soviet with socialization of medicine the touchstone for this calamity.

The causes which the JOURNAL is fighting for:

1. Defense of the medical profession from emotional villification from misguided individuals in the

profession and from ignorant individuals of the general public.

2. Protection of the profession from misleading opinions engendered in the public mind through unfair, untruthful, and bombastic newspaper publicity attained on the part of certain members of the profession from time to time.

3. Restoration of the rank and ranks of the family physician, that fundamental factor in the practice of medicine, and that has unfortunately suffered temporary displacement through the enthusiastic if not altogether balanced rush for specialization that has, through no precise fault of the doctors themselves, permitted a specious foothold for cults in the chasm between the service of the specialists and the average service afforded by the average modern general practitioners.

4. Realization on the part of both mature doctor, recent graduate and undergraduate student that the general public is demanding increasingly a punctilious service for those comparatively trivial ailments that comprise the bulk of human ailments and that proffer fertile mediums for the increase of charlatanism.

At the risk of being considered an incurable optimist, let it be stated that prospects were never so bright. Awakening of the professional conscience to the wrongs that have been perpetrated against individual members and the mother science augurs that action that will follow will bring remedy. "Diagnosis is half the cure."

It was moved that the report be accepted and placed on file. Motion seconded and carried.

The President: The next order of business will be the report of the Standing Committees.

#### PUBLIC POLICY COMMITTEE

Dr. Emmet Keating, Chicago, Chairman, reported as follows:

*Duties.* The duties of the Public Policy Committee have not been specifically defined. The constitution of the State Society states that it shall be the duty of the Committee to do those things that will be for the mutual benefit of the profession and the public. It is axiomatic that whatever contributes to the benefit of organized medicine, contributes equally to the benefit of the public; and that whatever is detrimental to organized medicine, either collectively or individually, is correspondingly detrimental to the public.

Since the creation of the Education Committee, the Public Policy Committee has devoted a great deal of attention to the furtherance of the aims and work of that Committee. Convincing the public of the need of periodic health examinations is a small task compared to persuading the general practitioner to assume this responsibility.

*Health Audits.* It is not an easy thing for physicians, who have devoted their attention and applied their skill to the problem of restoring to health those who are either partially or entirely disabled, to proceed to inventory the physical and mental condition of those who are apparently well. Very few physicians

write histories of the acutely ill who are treated at home. When the patient is at the hospital, the history written by the interne is usually treated with scant attention. There is as much difference between mental concepts of the condition of tissues, with a verbal diagnosis, and a written description of tissues, with a diagnosis in writing, as there is between betting a hundred dollars and putting up the money. When the campaign for complete physical examinations was launched, it was hoped that the recent graduate would begin his career by giving this type of service.

However, the recent graduate does not seem to be making any more progress in this work than the physicians who have been in practice for several years. This may be accounted for by the fact that during his hospital internship, his entire work has been observing and assisting in the treatment of those suffering from more or less disabling infirmities. As the supply of hospital patients is recruited by a large number of physicians, the internes are apt to receive an erroneous idea of the amount of sickness in any community. Where there are a large number of physicians on the staff, one patient from each will furnish the hospital with a great deal of business. Hospital staffs are not teaching the internes periodic health examinations of the apparently well. It is not practical for them to do so. These examinations are for the most part strictly an office proposition. Experience and observation will demonstrate that examinations made at the office and by appointment are done much more carefully than the same physician would do them at the hospital.

There is great need for organized teaching in all our hospitals. Private patients would be better served if they could be the subject of conferences by all physicians attending the hospitals. They could be shown as they are in the dry clinics, at the medical meetings. A few hospitals are doing this work, but not much headway will be made until the State Society inaugurates a well ordered plan. The Education Committee of the State Society, if they had sufficient funds, could stimulate this work. This does not mean that the State Society or any one else is to interfere with the physician's private practice. It means that each physician will be encouraged to present patients at the daily clinics, discuss the history and give reasons for diagnosis. At the conclusion of his talk, the patient would be sent back to his or her room, and subject discussed by the physicians in the audience.

Teachers in medical schools long ago learned that patients were proud of the distinction of being brought before an audience of doctors or students. The reputation of the physician presenting their case was greatly enhanced. To them he became a great man. Did not other doctors come to learn from him? The psychology of private patients is no different from that of those seeking charity. Properly conducted, such clinics will never rob a physician of his patients, but because of the extra study he must do to make a creditable showing, he will deserve the increased regard in which he will be held by his patients.

*Endowment Fund.* Two years ago, the Public

Policy Committee recommended the raising of an endowment fund by means of donations and bequests in wills. At that time no action was taken upon the recommendation. A year ago, at the Champaign meeting, the recommendation was renewed and the House of Delegates passed a resolution empowering the Council of the State Society to proceed with the raising of an endowment fund for this purpose. The Council has not as yet devised a plan for setting the machinery in motion for raising this fund. Progress in medical activities will of necessity be slow as long as so much dependence must be placed upon the efforts of willing workers. There is a very definite limit to the amount of work the individual physician is able to do for the Society, because of the expenses—time, travel, stenographic and clerical work.

*Internal Medicine, a Misnomer.* One of the most inappropriate terms used to distinguish one of the divisions of medicine is that of "Internal Medicine," which neither defines nor describes. Its use in the curriculums of medical schools fosters the continuance of an imaginary dividing line between the teachers and the students who are preparing themselves for practice. The student is imbued with the idea that "Internal Medicine" is a specialty like surgery or ophthalmology. The men who teach diagnosis and treatment are professors of the practice of medicine. They are general practitioners, family doctors, if you will, who, because of physical limitations, lack the time to do obstetrics, minor surgery or make house visits.

*Duties of the Family Doctor.* The time has come to make clear to the medical profession the status and duties of the general practitioner. They are: 1. Diagnosis and treatment of the acutely ill. 2. Observing, advising and delivering the expectant mother. 3. Weekly or monthly care of the healthy infant. 4. Doing whatever minor surgery occurs in his practice. 5. (a) Complete physical examination of the apparently well; (b) filing and preserving written records of such examinations; (c) periodic examinations of, and advice to those examined, every six months or every year.

There are comparatively few general practitioners who have enough cases of acute illness to keep them busy. Work of this kind is always done in cycles. During these short terms of activity, physical examinations and periodical examinations of the apparently well will have to be postponed until the flurry is over. In this way the general practitioner will find steady, interesting and profitable employment.

#### MEETING OF THE HOUSE OF DELEGATES

The Public Policy Committee has one recommendation, which is to change the time of the first meeting of the House of Delegates, from evening to the morning of the first day. The work of the Illinois State Medical Society has reached such proportions that the hurried evening session attended by tired and sleepy delegates, should be abolished. A certain amount of debate in the House of Delegates is necessary, in that it teaches men to think and reason. In



the night sessions every one feels strained and hurried because of the fatigue of those present, and the lateness of the hour.

The Committee believes that the fear of some of the members, that a morning session will be poorly attended, is unfounded; because the growing importance of the Society makes the office of delegate one that men will seek.

If you would develop abilities in those who are willing to work, you must burden them with responsibilities.

#### MEDICO-LEGAL COMMITTEE

Dr. J. R. Ballinger, Chicago, presented the following report:

During the twelve months ending May 1, 1927, 26 new malpractice suits were brought, of which sixteen originated in Cook County. During the same period we disposed of 33 suits, of which 24 were from Cook County. On May 1, we have remaining only 79 lawsuits, which is the least number we have had since the year 1920. The number of suits pending on the first of May each year has been gradually decreasing since 1923, when we had our largest number, 101 suits.

We are very much encouraged over the decreased number of suits filed in Cook County, and are also gratified at the proportionate number of suits of which disposition has been made. There were thirty-nine claims reported during the year, which is about the usual number.

The type of cases we have been getting has been changing. Where formerly our largest complaint was in fracture cases, we now have a general assortment with no special sort of suit predominating, but we seem to have an increasingly large proportion of suits arising from tonsillectomies, x-ray treatment and retained foreign bodies.

Our past year has been a successful one. None of the cases were lost, but settlements were made in some of them. All of the cases which were brought to trial were won, except one in which settlement for \$500.00 was made by the insurance companies during the course of the trial.

The members of the Medico-Legal Committee wish to express to the House of Delegates of the Illinois State Medical Society, the feeling of the irreparable loss of its Chairman.

The members of this committee whose privilege it has been to work with him for the last few years know that the Illinois State Medical Society has lost one of its hardest workers and most valuable members.

Bruce King was a power in his profession. His modesty, his honesty and straightforwardness were of the most sincere kind and he passed away, like all great men, without realizing the esteem in which he was held by his colleagues.

He was an intimate friend of mine and one of the best I have ever had. In my twenty-four years of close association with him I never saw his attitude for fairness and honesty change in the least even under the greatest of pressure.

It is our desire, Mr. Chairman, that this House

of Delegates rise and remain quiet for one minute in tribute to Clarence Bruce King.

(The House of Delegates stood in silence for one minute in tribute to Dr. King.)

#### REPORT OF THE LEGISLATIVE COMMITTEE

Dr. J. R. Neal, Springfield, Chairman, made a verbal report on the legislative activity for the year. He was granted the privilege of making a final report to be published. The Committee's final reports appears elsewhere in the JOURNAL. (Cf. Page 2.)

The President: It has come to the knowledge of your chairman that recently Dr. Neal has had as many as thirteen of his force in the office of the company with which he is associated working on the Legislative committee without any cost to us.

Dr. Sloan: I move that we accept his report and commend him most kindly. (Motion seconded and carried by a rising vote.)

The President: Now we come to unfinished business.

The Secretary: A year ago the matter to which Dr. Chapman referred in his report relative to the autopsies in public institutions was introduced at the instigation of the section on eye, ear, nose and throat. This was approved by the House and referred to the Council. The committee appointed by the Council to consider the matter consisted of Drs. Mundt, Bennett and myself. I shall now present the report from the Council:

#### REPORT OF COMMITTEE ON POSTMORTEMS IN PUBLIC INSTITUTIONS REFERRED FROM THE EYE, EAR, NOSE AND THROAT SECTION

Your committee is of the opinion that the knowledge derived from postmortems is essential to the progress of medical science and to the welfare of the citizens of this state. Your committee is also of the opinion that it is becoming more difficult to secure postmortems in public institutions.

After considerable investigation and correspondence it is the opinion of your committee that the only method of increasing the number of postmortems is a more active cooperation between the superintendents and attending staff of the hospitals. It is the opinion of your committee that no legal steps may be taken to increase the number of postmortems.

(It was moved that the report be accepted. Motion seconded and carried.)

#### NEW BUSINESS

The President: We now come to new business and the first thing is the appointment of a Resolutions Committee. On this committee I wish to appoint John R. Harger, Chicago, chairman;

E. P. Coleman, Canton, and E. H. Weld, Rockford.

The next thing is the presentation of resolutions.

Dr. E. P. Sloan, Bloomington: I wish to present the following resolutions:

#### 1. INTERPRETATION OF THE CODE OF ETHICS

*Resolved*, That all questions of debatable medical customs, practice or conduct, the discussion of which may affect the professional reputation or standing of a member of the medical profession, or of the medical profession in general shall be considered only in executive sessions of medical societies or by special or duly appointed committees on ethical relations; that discussion of such subjects before lay audiences or in medical society meetings open to non-members be declared unethical and grounds for censure, suspension, or expulsion from membership in any component society of the Illinois State Medical Society.

(Referred to the Resolutions Committee.)

#### 2. INVESTIGATION OF THE NURSING SITUATION

*Resolved*, That a committee on investigation of the nursing situation, to work under instructions from the Council, be appointed by the president; that this committee be requested to cooperate with the Committee of the American Medical Association and to present a report to this House of Delegates at the next annual session.

(Referred to the Resolutions Committee.)

#### 3. RESOLUTION OF APPRECIATION OF THE WORK OF DR. WENDELL C. PHILLIPS AND THE NEW YORK STATE DELEGATION AT THE 1927 MEETING OF THE AMERICAN MEDICAL ASSOCIATION

*Resolved*, That the House of Delegates of the Illinois State Medical Society duly appreciate and commend most highly President Wendell C. Phillips and the entire New York State delegation at the 1927 meeting of the American Medical Association for their efforts in the passage of proper resolutions concerning the usurpation by Congress of the right of the physician to decide what drugs and what dosage of drugs shall be prescribed for his patients.

Dr. C. A. Hercules, Chicago: I wish to introduce the following resolution:

#### 4. DEATH OF CLARENCE BRUCE KING

WHEREAS, The Creator who has given us the mortal life of one who has labored incessantly and effectively for the betterment of medical service in this commonwealth of Illinois, and

WHEREAS, That same great Controller of the universe, endowed with infinite wisdom, has taken from our midst that one, Clarence Bruce King, be it

*Resolved*, That we, the House of Delegates of the

Illinois State Medical Society, here assembled, at Moline, Illinois, this second day of June, 1927, hereby express our appreciation for his services in many ways and more especially in his long and faithful service as Chairman of the Medico-Legal Committee, and be it further

*Resolved*, That because of the unusual helpful character of his services and because of our deep sorrow for our loss, that we shall have spread upon our minutes these resolutions and that they be published in the ILLINOIS MEDICAL JOURNAL, and that a copy be sent to the widow and family of the late Clarence Bruce King.

(Referred to the Resolutions Committee.)

Dr. R. L. Green, Peoria: I wish to introduce the following resolution:

#### 5. NARCOTIC AND NATIONAL PROHIBITION LAWS

WHEREAS, Authorities agree that the narcotic evil is almost wholly a police rather than a medical problem, and

WHEREAS, From the past experience with laws of this nature we feel that the drug addicts will continue to get their supplies of heroin unless they be dealt with in other fashion, and that therefore the sufferers from this proscription will be the patients of the physicians and surgeons in their legitimate practice, and

WHEREAS, The Congress of the United States under authority of the Eighteenth Amendment to the Constitution of the United States passed an act known as the National Prohibition Act and an act supplemental thereto; and

WHEREAS, The National Prohibition Act provided that no physician should prescribe more than one pint of spirituous liquor to be used by a patient within any period of ten days, and the act supplemental to said act provided that not more than one quart of vinous liquor should be prescribed within any like period, and no combination of spirituous and vinous liquor containing more than one-half pint of alcohol should be so prescribed; and

WHEREAS, The Supreme Court of the United States has decided by a majority of five to four, in the case of Lambert vs. Yellowley, et al., that the Congress has power so to limit the amount of liquor that may be prescribed, irrespective of the patient's condition or the physician's opinion as to the patient's needs; and

WHEREAS, By this decision of the Supreme Court, Congress becomes both pharmacologist and physician with power to decide what is and what is not a medicine and to fix the dosage of remedies contained in the U. S. Pharmacopoeia, and

WHEREAS, The assumption by Congress of these powers of life and death over the sick is hazardous and dangerous to public health; and to the perpetuity of the family and the individual and the nation itself, and

WHEREAS, The question of the amount of spirituous and vinous liquor a physician may use in the treat-



ment of disease, is in no sense a political question and has no bearing on the so-called wet or dry issue; therefore, be it

*Resolved*, That the Illinois State Medical Society condemns as dangerous to the health of the public and the usurpation by Congress or by any other legislative body the fixing of the dosage or proscribing the use of any drug, and that the limitation to one pint in ten days of spirituous liquor, when prescribed by a physician to his patient in the treatment of disease or the limitation of the use of a necessary drug may in some cases if adhered to by the physician, be the cause of the patient's not recovering from his illness, and be it further

*Resolved*, That the Illinois State Medical Society requests Congress in the interest of the scientific treatment of disease and preservation of the Public Health that the restrictions in regard to the legitimate use of heroin by physicians and the section of the National Prohibition Act and the act supplemental thereto, that limits the amount of spirituous liquor and vinous liquor, that may be prescribed shall be repealed, forthwith, and that such laws or regulations be made as will prevent the diversion of spirituous or vinous liquors, that may be prescribed by a physician in the treatment of disease to beverage purposes, provided there be not thereby curtailed the right of the physician to prescribe and administer in good faith such drugs and such liquors in such amounts and dosage as in his scientific judgment the need of his patient may require.

(Referred to the Resolutions Committee.)

Dr. J. T. Gregory: I wish to offer this resolution:

6. WHEREAS, At the meeting of the American Medical Association at St. Louis in 1922, by the sanction of the House of Delegates there was formed the Women's Auxiliary of the American Medical Association,

WHEREAS, At this time there are twenty-two states with actively functioning auxiliaries with seven in the process of formation,

WHEREAS, In many states where the Women's Auxiliaries are formed the women are assisting the medical profession in many educational, legislative and other programs; therefore, be it

*Resolved*, That 1, the House of Delegates of the Illinois State Medical Society endorse the organization of a Women's Auxiliary within the State of Illinois; 2, that all delegates will impress on their respective societies the importance of cooperating with the movement; 3, that the individual members of the Society be urged to tell their wives the value of such a cooperative society to the medical profession and induce them to assist in the movement; 4, that the women be urged to start their organization at this meeting.

The President: Dr. Gregory, would you like to offer your resolution as a motion so that it can be acted upon tonight?

Dr. Gregory: I offer the resolution just read as an motion. (Seconded by Dr. Harger and carried.)

The President: The other resolutions are referred to the Resolutions Committee.

The Secretary: I have two letters to submit. These letters were presented to the Council and the matter contained therein was referred to by Dr. Chapman in his report. I believe it would be well for us to turn these over to the Resolutions Committee. One is in regard to modifying the regulations in the use of narcotics and the other is from the Council of the American Medical Association relative to the teaching of medical ethics. I present the following resolution and move that it be referred to the Resolutions Committee:

After reading the communication from the Council on Medical Education and Hospitals concerning medical ethics, your committee recommends that the House of Delegates of the Illinois State Medical Society go on record in favor of the recommendations of the Council on Medical Education and Hospitals relative to the better dissemination of knowledge of medical economics and medical ethics, both among the profession and the student bodies of our medical schools, and that the members of the Illinois State Medical Society encourage and foster suitable meetings each year for that specific purpose.

(Referred to the Resolutions Committee.)

Dr. E. P. Sloan: I wish to present the following resolutions to be acted upon tonight:

*Resolved*, That the president appoint a committee of five on publicity to furnish proper information to the newspapers and cooperate with them.

That all information for publication emanating from this meeting shall be handled through this committee and not be given out by individuals.

That this committee report to the Council at its June meeting upon all publicity of this meeting, and that this committee serve until the first meeting of the House of Delegates at our next annual meeting.

The President: Most of the publicity has been handled through the local society and through a member of the Council, Dr. Chapman. Most of the papers have been censored by the Council.

Dr. Andy Hall, Mt. Vernon: I second Dr. Sloan's resolution.

The President: What is to be the tenure of office?

Dr. Sloan: Until a year from now.

Dr. W. A. Pusey, Chicago: What is the purport of that resolution? I did not understand it.

(The secretary reads the resolution.)

The resolution is carried.

The President: The Chairman will reserve his privilege of appointing that committee.

Dr. W. F. Grinstead, Cairo: Most of us get into the city where the annual meetings are held on Tuesday morning or Monday evening. On Tuesday forenoon we are not very busy but we have to be here in order to attend the general session. It would be very convenient if the House of Delegates could meet on Tuesday forenoon. Let me remind you that the American Medical Association has its first meeting of the House of Delegates on Monday morning and its first general meeting does not occur until Tuesday evening. Why should we not profit by their example and act on the suggestion of Dr. Keating?

I would like to move, Mr. President, that it is the sense of this House of Delegates that our first meeting shall be held on Tuesday forenoons at nine o'clock at each annual meeting instead of in the evening at nine o'clock. (Motion seconded.)

Dr. F. P. Hammond, Chicago: When will the Credentials Committee meet?

The President: Dr. Grinstead might make it ten o'clock.

Dr. Grinstead: I shall not argue about the time, ten o'clock if it is preferable.

Dr. Pusey: The Credentials Committee of the American Medical Association meets at eight o'clock. I see no reason why our Credentials Committee should not get up an hour earlier.

Dr. G. H. Mundt, Chicago: I am perfectly willing to admit that there is a great deal of merit in the motion made by Dr. Grinstead. However, I feel absolutely convinced that you will have a very small House at the first meeting, which is an extremely important meeting. I can also say that the Secretary who is a very important individual at this meeting is very busy on the first morning of the meeting. It is not fair to have these very important reports made to a House with attendance of only twenty-five per cent of what it should be.

The President: It might be enlightening to the discussion to have the Secretary read the by-law, Chapter V, Section 1.

(The secretary so reads.)

Dr. Emmet Keating: I am quite certain that if the secretary of the American Medical Association,

who is probably the busiest doctor in the United States, can travel hundreds of miles to have his work done early, the present secretary of the Illinois State Medical Society can do the same thing.

Dr. E. W. Fiegenbaum, Edwardsville: I am fully in sympathy with this motion, but I want to call your attention to the fact that if you change the meeting of the House to Tuesday morning, you will interfere with one of the important sections of your State Society, the Secretaries' Conference, and furthermore, a great many of the secretaries of the component societies are also delegates and could not possibly attend both meetings. If a proper place can be given to the Secretaries' Conference, I would be perfectly willing to vote for the motion. I do not want the Secretaries' Conference to be relegated to the last afternoon.

The Secretary: I would interpret the by-laws as permitting such an arrangement without any definite additional action at this time. The general meeting begins at one o'clock. The by-laws state that the first meeting of the House shall be on Tuesday. My interpretation is that this can be provided for without any further action.

Dr. E. D. Wise, Champaign: I move as an amendment to Dr. Grinstead's motion that the matter be referred to the Council. (Seconded.)

Dr. Grinstead: I accept the amendment. (The seconder likewise accepts.)

The President: We shall now vote on the amendment, that it be referred to the Council. (Motion carried.)

Now we shall vote on the original motion as amended. (Motion carried.)

On the Publicity Committee I wish to appoint Drs. W. D. Chapman, Silvis, chairman; J. H. Hutton, Chicago; H. M. Camp, Monmouth; G. H. Mundt, Chicago, and C. J. Whalen, Chicago.

On motion duly made and seconded the House adjourned at 11:20 p. m. to meet again on Thursday morning.

#### SECOND SESSION

Thursday Morning, June 2, 1927

The Thursday morning session was called to order at 8:25 a. m. by the president. The secretary called the roll and announced that a quorum was present.

#### REPORT OF THE CREDENTIALS COMMITTEE

Dr. R. R. Ferguson: There are eighty-six



delegates present, forty-seven from downstate and twenty-nine Chicago Medical.

The President: The next order of business is the reading of the minutes of the last session.

The Secretary read the minutes which were approved as read:

The President: The next order of business is the election of officers. I will call for nominations for President-Elect.

Dr. E. H. Weld, Rockford: I wish to present the name of Dr. J. E. Tuite of Rockford. (Seconded.)

Dr. E. E. Perisho, Streator: I move that the nominations be closed and the secretary be instructed to cast an unanimous ballot for Dr. Tuite. (Motion seconded and carried and the president declared Dr. Tuite elected.)

Dr. D. R. Nelson, Moline, nominated Dr. A. T. Leipold, Moline, as first vice-president. Motion seconded. It was moved that the nominations be closed and the Secretary cast the ballot for Dr. Leipold. (Motion seconded and carried and the president declared Dr. Leipold elected.)

Dr. Emmet Keating, Chicago, nominated Dr. A. G. Bosler, Chicago, as second vice-president. Motion seconded. It was moved that the nominations be closed and the secretary cast the ballot for Dr. Bosler. (Motion seconded and carried and the president declared Dr. Bosler elected.)

Dr. C. S. Nelson, Springfield, nominated Dr. A. J. Markley, Belvidere, for treasurer. Motion seconded. It was moved that the nominations be closed and the secretary cast the ballot for Dr. Markley. (Motion seconded and carried and the president declared Dr. Markley elected.)

Dr. Andy Hall, Mt. Vernon, nominated Dr. H. M. Camp, Monmouth, for secretary. Motion seconded. It was moved that the nominations be closed and the president cast the ballot for Dr. Camp. (Motion seconded and carried and the president declared Dr. Camp elected.)

Dr. C. J. Whalen, Chicago, nominated Dr. R. R. Ferguson, Chicago, councilor for the third district. Motion seconded. It was moved that the nominations be closed and the secretary cast the ballot for Dr. Ferguson. (Motion seconded and carried and the president declared Dr. Ferguson elected.)

Dr. T. D. Doan, Palmyra, nominated Dr. Charles D. Center, Quincy, as councilor for the sixth district. Motion seconded. It was moved that the nominations be closed and the secretary

cast the ballot for Dr. Center. (Motion seconded and carried and the president declared Dr. Center elected.)

Dr. John F. Adams, Crossville, nominated Dr. Andy Hall, Mt. Vernon, as councilor for the ninth district. Motion seconded. It was moved that the nominations be closed and the secretary cast the ballot for Dr. Hall. (Motion seconded and carried and the president declared Dr. Hall elected.)

Dr. W. F. Grinstead, Cairo, nominated Dr. J. S. Templeton, Pinckneyville, as councilor for the tenth district. Motion seconded. It was moved that the nominations be closed and the secretary cast the ballot for Dr. Templeton. (Motion seconded and carried and the president declared Dr. Templeton elected.)

For delegates to the American Medical Association the following were nominated: Drs. R. L. Green, Peoria; C. S. Skaggs, East St. Louis; Mather Pfeifferberger, Alton; C. E. Humiston, Chicago, and J. W. Van Derslice, Oak Park. It was moved that the nominations be closed and the secretary cast the ballot for the above-named. (Motion seconded and carried and the president declared them elected.)

For alternate delegates to the American Medical Association the following were nominated: Drs. E. P. Coleman, Canton; H. H. Turner, Christopher; E. W. Fiegenbaum, Edwardsville; W. S. Bougher, Chicago, and Emmet Keating, Chicago. It was moved that the nominations be closed and the secretary cast the ballot for the above-named. (Motion seconded and carried and the president declared them elected.)

As standing committees, the nominations were presented in each case and the secretary instructed to cast the ballot and the president declared them elected. The following committees were elected:

*Public Policy:* Drs. Emmet Keating, Chicago, chairman; Warren Johnson, Chicago, and George Michell, Peoria.

*Medical Legislation:* Drs. John R. Neal, Springfield, chairman; Edward Bowe, Jacksonville, and C. E. Humiston, Chicago.

*Medico-Legal:* J. R. Ballinger, Chicago, chairman; George Weber, Peoria, secretary; R. O. Hawthorne, Monticello; Walter Wilhelmj, East St. Louis, and C. A. Hercules, Harvey.

*Relations to Public Health Administration:* Frank R. Morton, Chicago, chairman; E. H.

Weld, Rockford; E. D. Levisohn, Chicago; F. F. Maple, Chicago, and E. P. Coleman, Canton.

*Medical Education and Hospitals:* E. H. Ochsner, Chicago, chairman; W. M. Hartman, Macomb, and A. C. Baxter, Springfield.

The President: The next order of business is the report of the Resolutions Committee, Dr. John R. Harger, chairman:

1. INTERPRETATION OF THE CODE OF ETHICS

(See page 17.)

It was moved and seconded that this resolution be adopted. (Motion carried.)

2. INVESTIGATION OF THE NURSING SITUATION

(See page 17.)

It was moved and seconded that this resolution be adopted. Motion carried.

3. RESOLUTION OF APPRECIATION OF THE WORK OF DR. WENDELL C. PHILLIPS AND THE NEW YORK STATE DELEGATION AT THE 1927

MEETING OF THE AMERICAN MEDICAL ASSOCIATION

(See page 17.)

It was moved that this resolution be adopted. Motion seconded.

Dr. Humiston: While I am heartily in favor of taking this stand, would it not be better that we back up the final action of the House of Delegates in taking this action instead of some individual or some state. We find that the official action of the House of Delegates of the A. M. A. is the thing that we are trying to back up. Wendell Phillips is now an ex-president.

Dr. Sloan: The New York state delegation has been conducting a great fight on this one point for the last year and I think they should be commended. They certainly have been doing a great deal of good in the last three or four years. This resolution is merely an expression of commendation of the work of the New York State Medical Society and of their president. I doubt whether twenty men in Illinois have written to their legislators. I understand there have been over 4,000 personal communications and over 2,000 personal interviews with congressmen and senators down in Washington by members of the New York State Medical Society. They have done more work than we have.

Dr. Grinstead: I have heard what Dr. Phillips and his association have been saying from year to year. I never miss any more meetings

of the American Medical Association than I do of the Illinois state. I want to say that when a man has the courage of his convictions and when he has every reason or almost every reason to be sure that he is right and has the courage to come out in the open and express himself when he knows that the anathemas of a lot of politicians and uplifting people are going to be heaped upon him, I think it is all right for us to pay him a little compliment. I am heartily in favor of this resolution.

Dr. Keating: I think Dr. Humiston, Dr. Sloan and Dr. Grinstead are right. I move that this resolution be changed to read so that the American Medical Association will have the endorsement as recommended by Dr. Wendell Phillips. Motion seconded and carried.

(It was moved that the resolution as amended be adopted. Motion seconded and carried.)

4. DEATH OF CLARENCE BRUCE KING

(See page 17.)

It was moved that the resolution be adopted. Motion seconded and carried.

5. NARCOTIC AND NATIONAL PROHIBITION LAWS

(See page 17.)

Dr. Humiston: As far as I have been able to comprehend that lengthy resolution I am one hundred per cent in favor of it but we are dealing here with questions that have been before Congress and before the Supreme Court of the United States; we are taking issue with Congress and we are battling with the action of the Supreme Court. I think we would get farther if this question were referred to the Council with power to act and let our attorney scan the question and see if we are in a position to take action.

Dr. Whalen: It is an exact duplicate of the resolution passed by the American Medical Association without a dissenting vote.

Dr. Grinstead: I would like to point out that this resolution is not taking issue with the Supreme Court of the United States. The United States Supreme Court has nothing to do with that. It simply interprets it. Congress makes these laws and is responsible for them. The Supreme Court can put a construction on this law handed to them by Congress. They must do their duty as they see it. This resolution is not taking issue with the Supreme Court.

Dr. Kittler: I move that this House of Dele-



gates go into executive session before we discuss it further.

The President: Dr. Humiston, do you offer your suggestion as a motion?

Dr. Garrison: I move that the resolution be referred to the Council.

Dr. Kittler: I think this should be discussed in the House of Delegates.

Dr. C. S. Whitehead, Naperville: I second Dr. Garrison's amendment.

Dr. Sloan: If we are going to do anything politically we have to take a stand. This has nothing to do with the prohibition question. It is a question of whether the plumber, the farmer, the clerk in Congress can decide what we are going to prescribe for our patients and how much we are going to prescribe. (Applause.)

Dr. D. B. Penniman, Rockford: I am a prohibitionist and I am in favor of this resolution. We know how to deal with a man when he smirches our reputation. The United States knows what to do with the man who bootlegs. There is no man who can say to me that I shall not give liquor to a man with delirium tremens to save his life.

Dr. Garrison: I see that my amendment to Dr. Humiston's motion is very much misinterpreted. I feel this is not a matter of whether you will or will not give whiskey. The large majority of the rank and file of the profession are honorable men and men of good judgment and want to see the law enforced. I can see if this resolution is adopted at the present time that it will go to the press and be misinterpreted by the public. I am in favor of this resolution one hundred per cent. I think it is a much simpler matter to refer it to a small body, such as the Council, who can look into it carefully and then present it at a time when it will probably do more good.

Dr. Andy Hall: I am not a prohibitionist, though I never drank a pint of whiskey in all my sixty-two years. I write prescriptions sometimes. I am in favor of this resolution.

The President: We shall proceed to vote on the amendment to the motion. (The amendment was lost.)

We will now vote on the resolution. (Motion carried.)

## 7. TEACHING OF MEDICAL ETHICS

(See page 18.)

Dr. P. R. Blodgett, Chicago Heights: I consider this resolution as more or less of an indictment against the profession in their dealings. The inference that the rank and file of medical men need instruction in medical ethics is, in my opinion, a pernicious lie. We all know that there are certain men in the profession that need intensive training in medical ethics and some of them have been out of school a long time and some of them are teaching students. If I understand the purpose of medical schools it is, first to further scientific knowledge, and second, to teach the economics of the profession. I would be very much more in favor of a course in medical economics than of one on medical ethics. Medical ethics is the interpretation of the Golden Rule as applied to medicine. That can be told in one lecture. I live thirty miles from the Chicago loop and it is possible for people to get there from my town in thirty minutes. They can go to specialists in the loop who will take care of them for half what I can afford to in Chicago Heights. Most of these specialists are teachers in our medical schools and I think they should have a course in medical ethics before it is passed down to the students.

I attended a meeting of the Alumni Association of the University of Illinois at which we were told that the out-patient department was handling over 90,000 patients. That is too many charity patients for one school to handle and there are four such schools in Chicago, while the post-graduate schools probably handle half as many patients. I have had in my personal experience patients who have gone to Chicago and had their tonsils removed in the dispensaries of Class A Medical Schools, together with the after-care, for \$7.50 each. I think it is time we took some stand against such practice.

Dr. Sloan: I would like to have the resolution reread.

Dr. Harger: I will read the letter from the American Medical Association.

Dr. Andy Hall: Is Dr. Bevan head of this committee? If so, I am not here to take orders from Dr. Bevan.

Dr. Harger: This originated in the Board of Trustees.

Dr. Sloan: Let us hear the resolution.

(Dr. Harger reads the resolution.)

Dr. Green: I move its adoption.

Dr. Blodgett: I would like to offer as an amendment the insertion of the words "medical economics and ethics."

(Amendment seconded.)

The President: We will vote on the amendment. (Amendment carried.)

We will now vote on the resolution as amended. (Motion to adopt resolution as amended carried.)

Dr. Harger: I have some additional resolutions which were not read at the first meeting of the House.

#### 1. REPORTS OF OFFICERS, COMMITTEES AND COUNCILORS

*Resolved*, That the reports of all officers, committees, and councilors shall be in the hands of the Secretary not less than ten days before the annual meeting and that a printed or mimeographed copy of these reports shall be furnished to each member of the House of Delegates previous to the annual meeting of the House of Delegates.

(It was moved that the resolution be adopted. Motion seconded and carried.)

#### 2. DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

*Resolved*, That the Illinois delegation to the American Medical Association be requested to report through their chairman or the secretary at the next annual meeting of the House of Delegates under the order of standing committees.

(It was moved that the resolution be adopted. Motion seconded and carried.)

#### 3. PARENT-TEACHER ASSOCIATIONS

WHEREAS, The Parent-Teacher Associations throughout the state are conducting a campaign to have every child that is to enter school for the first time next fall physically examined before school opens, and

WHEREAS, in a number of places they have accomplished this through free clinics conducted by members of the Illinois State Medical Society without compensation; therefore, be it

*Resolved*, That the Illinois State Medical Society through out House of Delegates make clear the attitude of this society concerning the physical examination of the pre-school age child to be as follows:

1. The county societies should endorse the movement when it calls for the education of parents to have the examinations by the family physician at the usual fee for such examinations.

2. The members of the county societies should not lend their services, either singly or in groups, to the free clinic for such examinations where any and all that apply will be served free of charge.

3. That it is contrary to the policy of the Committee on Education to have such free clinics.

4. That the county society should make it known

to parents that any examinations of their children of pre-school age should be made by the family physician at the usual fee for such examination.

This resolution was presented by Dr. Alden Alguire.

It was moved that this resolution be adopted. Motion seconded.

Dr. Sloan: I am under the impression that the state of California had a good deal of trouble over a resolution of this same kind a few years ago. You run into the opposition of the family that cannot pay for medical service such as this. If any child who cannot pay will go to a doctor's office he will make the necessary examination. It seems to me that this resolution should make this clear.

The President: I do not know whether all communities have operated in the same way. One instruction has been that they must go to their family physician to be examined and must pay for the examination. If they cannot pay, then the doctor can examine them free. I do not believe that has been satisfactorily stated. They recently started a campaign in my own community and we had a member of the Board of Health there and we made that point perfectly clear. Where they cannot afford to pay they need not. For my part, I do not see any use for this resolution because the instructions have been given.

Dr. Munson: I move as an amendment that this committee be continued for a further consideration of this subject. (Seconded by Dr. Sloan.)

Dr. Alden Alguire, Belvidere: I had a finger in that pie. The parties who wrote this first part of the resolution asked me if I would finish it. I did so for this reason, and that in our community they pulled that off on our pre-school children and tonsils were ordered out. The examination was not done in the proper manner. The tonsils and teeth were all that could be examined. They could not strip the children and consequently could not make a complete examination. I am sure that a lot of the societies in this state do not know the attitude that has been taken by this House of Delegates in regard to lay education. The House has done wonderful work as far as getting hold of the women's clubs is concerned. The implication in this resolution was that anybody who did not have a cent could take his child to the family doctor and have the examination done free of charge. The



trouble is that people who can afford to pay are taking their children to the free clinics for these examinations. I would like to see this resolution go through as it is.

Dr. Chapman: If it would help any to clarify the situation, I would like to state that the Educational Committee has been working on this same thing for two years. There have been in Illinois two plans of examination of the pre-school child, one by the Women's Clubs, which specifies that the examination be made by the family physician, and the other by the Parent-Teachers' Association, which has advocated in past years the free clinics. That the Educational Committee has found objectionable. The committee has been in contact with the Women's Clubs and during the past year has developed its contact with the Parent Teachers group. I think I am not mistaken in saying that the contact with the Parent-Teachers' group is improving in this way. As the resolution was read it seems to me it would be excellent advice to our own county societies. If given wide publicity it might be misunderstood coming from this House. Unless the resolution is entirely clear it might cause some trouble.

Dr. G. L. Armstrong, Taylorville: I see no reason why this resolution should not be adopted. Recently in our town the Parent-Teachers' Association attempted to have this examination done free. I objected to taking part in it. I insisted that the children be sent to the family physician. I see no occasion for this work being done in a free clinic. I think this should be passed on to the county societies, as Dr. Chapman has said.

Dr. Harger: I would like to say in defense of your committee that this resolution was handed in very late. We thought it should come up. I wish it would be clarified and stated in concise terms so there will not be any mistake. I agree with Dr. Chapman that it should be clarified by some one who can put it in plain English and then referred to the Council, who, can in turn, refer it to the county societies.

Dr. Munson: I do not think there is any question about the attitude of our profession. Last year a communication was sent to Dr. Rawlings asking him to send a nurse and doctor to a certain locality to conduct examinations at the request of the Parent-Teachers' Association. Immediately a letter was sent to the Educational Committee and it came to my attention. There

is no doubt but that it is the feeling of everyone here that this should not go out before the people until it is rightly understood and interpreted.

Dr. Penniman: This matter came up in our county very much as Dr. Alguire mentioned. It was said that the state society endorsed the free examination. I think that the matter should be made clear that the state society is not endorsing free examination. No doubt it is a very valuable thing to all of us but there is no reason why it should be done free.

Dr. Alguire: I think if the resolution is read over, it will be seen that it states specifically that the county society shall make known to parents that the examination of their pre-school children shall be made by the family physician. That gives you your county medical society as the chief factor and the doctors who are members of it. The implication is exactly what has been discussed here. There has not been a speaker on this floor who has stated the thing correctly. I am sorry Dr. Porter and myself are not clearer writers.

Dr. Ferguson: It seems to me that we should stop and consider the lay public side of this affair, remembering all the time that your society has contact with the public as individuals as well as an organization. We have only recently made contact with the Parent-Teachers' Association. We have our contact with the Women's Clubs and with the State Department of Health. I do not believe we should at the present time break up these contacts. It should be left to the Educational Committee. We believe as a committee that the county medical society is supreme in all these things and if the county medical society desires to form a clinic and do these things free that is their business. Your committee did not recommend anything of the sort to the local county medical society. I move as a substitute that this resolution be referred to the Council and then to the Educational Committee. (Motion seconded.)

Dr. H. F. Bruning, Chicago: I object to any scheme leading to socialization of medicine. The doctor is always called on for free service. My idea is that the definition of a person who is entitled to medical charity is one who is already receiving charity from some other charitable organization.

Dr. Munson: As soon as the action of the

Council is taken it can be printed in the ILLINOIS MEDICAL JOURNAL.

The President: We shall now vote on the amendment to the motion. (Amendment carried.)

We shall now vote on the original motion as amended. (Motion carried.)

Dr. Chapman: I have just been informed that there is a special reason for an expression from the House of Delegates on this matter rather than to refer it to the Council. In order to get the matter before the House, I offer the following motion: That the House of Delegates frowns upon the practice of free clinic examinations of pre-school children and advises the county society secretaries of this action.

Dr. Sloan: I second this motion: Children examined in free clinics are never examined right. The only place where such examinations can be made is in the doctor's office. Each member of our society is a health center.

Dr. Hutton: It was stated by the Parent-Teachers' Association in one county that the Educational Committee stated that the pre-school children should be examined free, that they not only put on a campaign but examine the children free either by clinic or otherwise. I wish that the House of Delegates would give an expression of opinion.

The President: Dr. Chapman, state your motion.

(Dr. Chapman repeats motion.)

Dr. C. Bennett, Champaign: I wish to endorse this exactly as Dr. Sloan says.

(Dr. Chapman's resolution was adopted.)

The President: The next order of business is the selection of a meeting place for next year.

Invitations were received from Peoria, Danville, Joliet and Chicago. After due consideration it was unanimously voted to hold the 1928 meeting in Chicago.

The President: The next order of business is to fix the dues for the coming year.

Dr. Perisho: I move that the dues remain the same, eight dollars per year. (Motion seconded and carried.)

#### NEW BUSINESS

Dr. Mundt: Any one who has attended the meeting at Moline can well appreciate how splendidly the Illinois State Medical Society has been treated. I think we all appreciate it. I therefore move that the House of Delegates adopt a

resolution of commendation and appreciation of the efforts put forth by the tri-cities, Moline, Rock Island and Silvis, the Elks Club of Moline and its secretary, the doctors in these cities, the management of the LeClair Hotel, the ladies, the press, Dr. Nelson, Dr. A. T. Leipold and Dr. Chapman. (Resolution seconded and adopted.)

The Secretary: I have here a letter from Dr. C. B. Johnson of Champaign which I think should be read. Dr. Johnson regrets his inability to be present at this meeting because of illness.

Dr. C. S. Nelson: I move that the secretary be instructed to send to Dr. Johnson a letter of appreciation with best wishes for his recovery. (Motion seconded and carried.)

Dr. Sloan: I think we should have a word regarding the history.

Dr. Zeuch: For the last six or seven years we have been working on the history. I want to call your attention to the fact that the first volume is now ready. We want everyone to have a copy of this history.

Dr. Mundt: I cannot refrain saying a word about this work. The most interesting thing about any science is its history. I think that is one of the finest activities the Illinois State Medical Society ever entered into. I think all of us should buy this book.

Dr. Hutton: I move that the House of Delegates extend a vote of thanks and appreciation to Dr. Whalen and Dr. Zeuch for their efforts in preparing this history of the Illinois State Medical Society. (Motion seconded and carried.)

Dr. Sloan: I move that each delegate be requested to urge each county society to buy it. (Motion seconded and carried.)

The President: I want to take this occasion to thank the House of Delegates and all its members for the support they gave me. As I said last night, it has been a privilege and a pleasure to have served you. I want to prophesy that next year with the young, energetic man you have chosen you will have one of the finest years you ever had in Illinois. I will ask Dr. Mundt to escort the president-elect, Dr. Tuite, to the platform.

Dr. Mundt: It is needless to say that it is a pleasure for me to introduce Dr. Tuite, the president-elect, of this organization. I want to bear down on one thing in presenting him, that is, that he is the president-elect of the best organized state medical society in the American



Medical Association. I have in my pocket a portion of the report of the secretary of the A. M. A. which will prove without question that the statement that I made is true. I introduce to you Dr. Tuite of Rockford.

Dr. Tuite: I appreciate it very much. What I shall do will be the best answer.

On motion the House of Delegates adjourned at 10:15 sine die.

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## PHYSICIANS CAN MAKE OR BREAK A PUBLIC HEALTH PROGRAM

The following is significant. It is taken from the information service of the Rockefeller Foundation released for publication in the newspapers June 23, 1927:

The physicians of a country can make or break a public health program. It is they who diagnose maladies, report cases of communicable disease, educate their patients, make health examinations give advice about personal hygiene, influence public opinion.

It makes a world of difference whether practitioners are wholly devoted to individual ills and curative medicine or are committed to the modern idea of prevention. The progress of public health is largely due to the leadership of doctors of imagination and public spirit. To its medical schools a country must look for the kind of training and idealism which will produce doctors of the new type. Medical education is a vital factor in the development of public health.

Again, the different kinds of officials and special workers must have technical professional training. Public health is not something to which anyone may turn without appropriate preparation.

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## SCIENTIFIC SERVICE COMMITTEE REPORTS PROGRESS

Since our last report Dr. George B. Lake has been added to our list of speakers. His subject is "The Psychic Factor in Disease."

The Committee is at present engaged in organizing the work in obstetrics and hopes to have a larger list of speakers for this branch scattered over the entire state.

The Speakers' Bureau functioned as follows:

May 12—Dr. Philip Kreuscher of Chicago talked to the Kankakee County at Kankakee on

the subject of "Orthopedics from the Viewpoint of the General Practitioner."

June 17—Dr. Channing W. Barrett of Chicago talked to the DeWitt County on "The Diagnosis and Treatment of Extra-Uterine Pregnancy."

June 14—Dr. Maurice L. Blatt of Chicago appeared before the Rock Island Society at Moline on the subject of "Infant Feeding."

June 24—Dr. Frank C. Murrah of Herrin will talk to the Marion County Society at Centralia on "The Acute Abdomen."

July 1—Dr. Robert W. Keeton of Chicago will appear before the Madison County Society at Edwardsville on "Feeding the Sick in Acute Infections."

JAMES H. HUTTON.  
Chairman.

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## DR. WILLIAM L. NOBLE HONORED

Dr. William L. Noble of Chicago, chairman of the Board of Trustees of the University of Illinois, had conferred upon him June 14, the degree of Doctor of Laws by his alma mater, "St. Lawrence University" of St. Lawrence County, New York.

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## ADVICE TO YOUNG AUTHORS

BY H. L. MENCKEN

Well, then, how is a young author to reach editors? By the simplest of devices. Let him type his MS. on sound white paper, thick enough to conceal the page below, let him have a well inked ribbon on his typewriter, let him write his name and address plainly at the top of the first page, and then let him send his MS. to the editor he has chosen, without any accompanying letter of any sort, his own or another's. The editor is not wholly idiotic: he will know instantly why it was sent in. And he will read it diligently and at once, for whenever he confronts a pile of MSS. he always picks out for his first reading those that are shipshape and workmanlike, and will put the least burden upon his time, his temper and his eyes.

It is astounding how many MSS. that come into magazine offices—and into publishers' offices—are wholly unreadable, in the literal physical sense. Many are upon such thin paper that, attempting to read them, one sees the lines of two, three or even four pages at once. Many others are typed so faintly that it is ruinous to the eyes to try to make them out. Yet others are single spaced—an almost incredible fact, but still a fact. Is it any wonder that the editor concludes quickly that no one guilty

of such imbecilities could conceivably write anything worth printing?

The prudent young author puts no such handicaps upon his merchandise. He avoids annoying and insulting editors with useless letters, and he avoids torturing them with illegible and unkempt MSS. His single aim, after he has composed his masterpiece, is to ease the job of the hard worked man who must read it—often on a long and busy day, and with Katzenjammer riding him, or his old war wounds troubling. This aim is easily achieved; it costs nothing save a little common sense. The author who achieves it has gone a long way toward success; even immortality is nearer to him than it was. More, he is laying up stores in heaven. For the editor, grateful to him, will not fail, at prayer, to bring his virtues to the attention of the celestial secretariat.

## SUBSCRIBERS TO THE HISTORY OF MEDICAL PRACTICE IN ILLINOIS

The following physicians, libraries, county medical societies, etc., have sent one or more subscriptions for "The History." Unless otherwise mentioned each name represents a single subscription. Kindly note any errors or corrections and forward to the committee:

The following have given more than one subscription:

McNeill, Samuel J., M. D., Chicago, 5 subscriptions.  
Thorek, Max, Chicago, 3 subscriptions.  
Bellevue Branch, St. Clair County Medical Society, 2 subscriptions.  
Pfeiffenberger, Mather, Alton, Ill., 2 subscriptions.  
Whalen, Charles J., M. D., Chicago, 2 subscriptions.  
Fox, Ralph D., M. D., Bloomington, 2 subscriptions.

## OFFICERS OF THE STATE SOCIETY THAT SUBSCRIBED

Pfeiffenberger, Mather, President, Alton.  
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## Correspondence

### ARE WE PLAYING POLITICS UNDER COVER?

The medical profession seems to have become a bit excited over Dr. Bevan's statement relative to booze, or "Bootleg" prescriptions, and I agree that the proper place to make such a statement is to the profession and not to the public, but has Organized Medicine acted more wisely in the "Modus Operandi" of its remonstrance against the Government in the enforcement of the eighteenth amendment to our constitution? Think it over.

First: I do not for a moment hesitate to prescribe whiskey when, in my judgment, it is the most effective remedy for the relief of human suffering.

Second: I am firmly convinced that in at least ninety-five per cent. of the cases where whiskey is usually prescribed, the medical profession has access to remedies that are more effective and more scientific than whiskey.

Third: I stand unalterably in favor of the proposition that no legislative body, or lay organization is competent to prescribe the drug, or the amount of the drug that a physician may prescribe in a given case of illness.

Fourth: I do not approve any action, or practice, on the part of any member of our profession, or any organization within our profession, that tends to cast reflection on the profession as a whole.

With these four statements clearly defined I desire to refer to the action of the House of Delegates of the A. M. A., the Illinois Medical Society and some other medical societies, in passing resolutions which tend to place the medical profession, as a whole, in an unfavorable light before the general public.

The principle for which these resolutions contend is sound, but the practice of passing resolutions that go at once to the public press and are construed by the general public as placing the medical profession as a whole against the enforcement of any part of the basic law of our land is open, at least, to serious question.

To us, as physicians, these resolutions mean that we are contending for the principle that the educated physician should be the sole judge as to the drug and the amount of the drug to be pre-

scribed in any given case. To the public, however, they have a very different meaning. The public construes them to mean that the medical profession not only stands opposed to the enforcement of the eighteenth amendment but that it is willing to defend the physician who writes "bootleg" prescriptions for narcotics and for booze. This statement is sufficiently proven by the headlines that have, from time to time, appeared in the public press when reporting our action, and can be proven further by conversing frankly with private individuals.

On the floor of the House of Delegates in Moline, an effort was made to handle the resolution so as to avoid creating this erroneous public opinion but the motion was voted down and within five hours we had the privilege of reading in the public press the following very suggestive headline viz. "State Medical Group Opposes Limit on Rum" and other similar headlines. Ask yourself frankly what impression arises at once in the mind of the layman when he reads these headlines.

What is the difference between making a statement before a lay audience and making one on the floor of the House of Delegates that goes at once to the laity by way of the public press? In the first instance the statement has only the prestige of the individual behind it but in the second it carries the prestige of the whole profession, thus making it capable of much more harm than the statement of any one individual.

Many of the best observers in our profession are convinced that alcoholics have a very insignificant place in therapeutics. There are others who consider them of value in the treatment of certain diseases and who use them carefully and honestly. I am convinced that it is not primarily the purpose of the Government to interfere with these two classes, but rather with the physicians, that we unfortunately have among us, who are willing, for the sake of the dollar, to disgrace the profession by lowering their offices to the level of the old time saloon and with others, altogether too numerous, who are exceedingly accommodating in the matter of prescribing alcoholics.

Passing resolutions that are so construed by the public as to lower the dignity of the profession serves two purposes very well. First, they serve to give ammunition to the "wide open" political propagandist, at the expense of our

profession, and second, they tend to convince the Government that even more stringent regulations are needed. Would it not be more nearly in keeping with the dignity of our profession to make a thorough "housecleaning" among ourselves and convince the Government that we wish to use alcoholics and narcotics in the legitimate treatment of disease only, and that we will assist in every legitimate way to bring the "bootlegger" physician to justice? If this is done there will be no occasion to place such restrictions on the respectable physician as we are now laboring under and we will be more likely to secure the privileges that rightfully belong to us. Properly constructed committees working directly with "the powers that be" will more effectually protect our rights than will resolutions sent broadcast through the public press.

W. H. GARRISON.

White Hall, Illinois.

#### ENGLAND'S INTELLIGENTSIA HAVE FEW OFFSPRING

London, Oct. 20.—The birth rate among British teachers averages only 95 children for each 1,000, according to public health statistics for 1925 just published. The medical profession is only a little better off, producing 103 babies for every 1,000 physicians, while the rate for ministers of 105 per 1,000 contrasts unfavorably with that of 231 births for every 1,000 laborers.

The birth rate per marriage among upper working classes has dropped from four to two and a half children within a generation while that of casual laborers and feeble-minded is seven.

Grave concern is expressed on the part of medical authorities over present economic conditions that cause the educated classes to limit their families or to forego raising children altogether, though the birth rate among the least desirable sections of the population continues at normal rates.

#### REICH DOCTORS LACK WORK

Berlin, Aug. 28.—Germany's problem of finding jobs for the unemployed includes placing a large number of physicians registered as practicing but who are unable to find patients.

On account of changed standards of living about 85 per cent. of the sick take advantage of their privileges as members of city and State clinics, for their services in which doctors are paid either a low salary or a minimum fee amounting to about 20 cents per patient.

The increase in the number of doctors is accounted for by the advantages offered during the war to those wishing to take a course of instruction.

Doctors are collected thickest in Berlin, where there is one for each hundred persons.—*N. Y. Times*.



## Original Articles

### PRESIDENT'S ADDRESS\*

MATHER PFEIFFENBERGER, M. D.

President, Illinois State Medical Society

ALTON, ILLINOIS

Ladies and Gentlemen:

In this, our seventy-seventh annual meeting, we are gathered together after one of the most profitable years of accomplishment in the history of the organization.

Illinois with its population of nearly 8,000,000 people has a registration of 11,212 physicians, of which approximately seventy-four per cent. are members of the Illinois State Medical Society. A very high proportion for a large society. If the rate of increase continues as it has in this past year, (having acquired nearly 400 new members in the face of a raise in dues from five dollars to eight dollars and very few dropping their membership on account of the increase), the next year will show even more gratifying results.

The House of Delegates which is the real executive body of the society has worked harmoniously and thus accomplished much for the benefit of the profession and the good of the public of the State at large. If there were a more complete representation from every county in the state our accomplishments would be greater, the more complete the representation the more efficient the organization.

### COUNCIL

Your officers feel proud of the work of the councilors you have chosen. The council, which corresponds to a board of directors, has charge of the affairs of the society between annual meetings. Four regular meetings of the council have been held during the past year and three at the annual meeting. Never in the history of the Society has your council done more work and had less dissension among its members than in the year just past. This ability to accomplish much in a harmonious manner has been due largely to your society having in its membership a man whom we all consider a most capable chairman; he has presided at all the meetings and has given untiringly of his time

and rare ability in the interest of organized medicine. I refer to Dr. William D. Chapman of Silvis, Illinois, Chairman of the Council.

Many perplexing and difficult problems have been presented to this body for their solution and all have been handled in a dignified and satisfactory manner to the gratification of all concerned.

### EDUCATIONAL COMMITTEE

Your educational committee, consisting of four members from the council unusually qualified to perform the duties required of them, undertook the work in which this society was a pioneer four years ago, of acquainting the public of the benefits they may derive from the discoveries made and information gained by medical science.

This committee obtained the services of Miss B. C. Keller to carry out their plans for the first two years and are now continuing with the assistance of Miss Jean McArthur who was selected this year from a number of very capable applicants.

The work which was largely experimental in the beginning is now well established, having contacts with all ethical professional organizations and every lay organization of any consequence in the state.

Their efforts have been so successful that other state societies in the United States are convinced of the worth of the project and are now undertaking work of a similar nature.

They are now concentrating their activities along definitely proven lines and are not undertaking to seek any more contacts which cannot be given the time to prove of value.

Speakers are being sent to all parts of the state on request of reputable lay organizations; radio talks are being given by capable speakers the committee has discovered and which have developed in our own ranks, giving the messages of the accomplishments of the medical and surgical world to the public in language which they understand.

This committee has also given out to daily papers throughout the state (over 100 in number) short articles on disease and the means of its prevention, over the name of the local county medical society. This information has been sought by the newspapers and eagerly read by the public.

\*Address before 77th Annual Meeting of Illinois State Medical Society, at Moline, June 1, 1927.

## SCIENTIFIC SERVICE COMMITTEE

To keep abreast of the work of the educational committee your council felt the need of supplying the profession with a service for *their* consideration. The Scientific Service Committee was organized and although this is a very new development the committee has plans to furnish speakers for County Medical Society meetings with clinical programs that bring the last word on any one subject or group of subjects to the busy practitioner who *can* attend his county meeting, but *cannot* take the time to visit the clinics in the large medical and surgical centers.

The list of subjects that can be supplied is so complete that the program can be made out for a whole year and every subject in the realm of medicine and surgery will be covered in a very creditable manner.

The excellent work of this committee under the chairmanship of Drs. James H. Hutton and R. R. Ferguson of Chicago has established a closer bond between this Society and the great Medical Educational Institutions which should prove highly valuable to the profession of the State during the coming year.

The importance of the educational efforts on the part of organized medicine was emphasized very forcibly recently by President Wendell C. Phillips in his address given at Washington, D. C., before the House of Delegates of the American Medical Association.

He said:

"The medical profession should throw off its mask of reticence and its shrinking attitude toward reasonable publicity concerning health education. Professional policies narrowly conceived can never successfully oppose the rightful interests of the public. It is time to strike the shackles not only from the shrinking attitude of the medical profession toward the public espousal of educational programs but also from its attitude toward the lay press, the radio and great assemblies of truth seeking people. The physician has no right to conceal from non-medical readers the great body of news of the highest importance which is his to communicate."

## MEDICO LEGAL COMMITTEE

The work of the Medico Legal Committee has been the most satisfactory since its creation by

the society, fewer cases are now pending and fewer coming to trial.

The work of this committee was ably carried on under the leadership of one of the most valuable and highly thought of members this society ever knew, Dr. C. Bruce King. He had one of the most difficult positions to fill in our whole organization but he always handled his problems with the utmost care and to the satisfaction of all concerned leaving the feeling with both sides in a controversy, that the matter under consideration had been handled with honesty, fairness and justice.

The Illinois State Medical Society at this meeting mourns the loss of Bruce King, a highly esteemed and much beloved member.

## LEGISLATIVE COMMITTEE

The work of the legislative committee is being handled more efficiently and with more gratifying results than ever before.

The use of a lobby at the State House has been entirely abolished and the effect is all that could be desired.

The spirit of cooperation manifested by the legislative committee has been remarkable and the help given by individual members of the Society throughout the State when called upon for their assistance has been prompt and effective.

The Society is particularly fortunate in having a Chairman of this committee who during the legislative sessions, has devoted a major portion of his time to the Society's interest along legislative lines—Dr. John R. Neal of Springfield, Ill.

## THE ANNUAL MEETING

The by-laws of your Society prescribe that an annual meeting shall be held. This is the members' own meeting, when all should get together for a common interest, to enjoy the fellowship of meeting with the brothers in the profession and participating in the proceedings. Although the attendance has been satisfactory it is not as large as it should be in a Society with nearly seven thousand five hundred members. Only about twelve per cent. of the membership attend the annual meetings. This would be a large proportionate attendance at a National Meeting but with the system of hard roads and the un-



usual railroad facilities available in Illinois we should have a much larger attendance.

One has only to read a masterpiece of literature, the preamble to the Constitution of the Illinois State Medical Society, to see why the society was organized, then read of the hardships undergone by those twelve pioneers who traveled to Springfield early in 1850 by carriage, stage or horseback and it will indeed be food for solemn thought and an inspiration to attend meetings.

Each County Society is entitled to one or more delegates to the Annual Meeting of the House of Delegates. Out of the maximum number permitted to be seated, at the 1926 meeting we had a seventy-four per cent. organization. This was good, but there should be a 100 per cent. representation. The work of the House of Delegates is of the utmost importance to all component Societies and each should have a delegate in the House.

Won't you who have been negligent in this matter carry the word back to your local society to select a good man as delegate and send him each year to the annual meeting?

#### THE SECRETARY

The life and success of any organization and particularly a medical society is largely reflected in its Secretary. In the person of Dr. Harold M. Camp of Monmouth we have a man ever alert and of untiring energy, possessing that rare ability not often seen of being both an organizer and a harmonizer. No man has ever been more faithful and true to the task entrusted to him than Dr. Camp.

#### PROGRESSIVE DOCTOR

We as a profession, so busy with our own individual problems, have been accused of losing a great deal of the old time esteem and respect formerly held in our several communities. This has been due largely to our paying too close attention to the rapidly increasing knowledge gained by scientific medical discoveries in the last fifty years which in turn has isolated the former family physician, the advisor and confident from his community. Probably we could regain some of this former position if we would take more interest in affairs of a public nature, thus establishing contacts that can be gained

in no other way, by becoming interested in our Chambers of Commerce, Public School Systems, Churches and all organizations civic in character. The doctor must give more of his ability to his community outside of his professional accomplishments.

In this age of commercial progress in which machinery and organization have brought about a new civilization the profession must keep abreast of the times in order to participate in the benefits; the more contacts a doctor has in his community the greater his value to both the community and his profession.

#### VITAL STATISTICS

The importance of reporting accurately to the Department of Health the causes of death and more especially the cause of infant deaths has been brought to the notice of the officers of this society in the last few years and more forcibly recently.

It is hard to believe that in an enlightened country such as ours where we lead in sanitation and have made the greatest advance in surgery and enjoy such a low mortality from infectious diseases and most other medical and surgical diseases, that we would have the high infant mortality attributed to us by the proponents of federal aid to the expectant mother and the unborn child.

Could it be due in part to laxness in reporting the cause of death and perhaps in part to our system of compiling statistics?

More care on reporting cause of death and a thorough renovation of the present system of compiling data might give the United States a different position in the comparative list of vital statistics of the world.

A system is in vogue in Switzerland that is credited with being the most complete and reliable in the civilized world at the present time. All information is secret, the reports being made to the Federal Government and not to a local registrar. The exact cause of death is given, with complete details. The family, insurance companies, and local authorities never know what the attending physician reports as the Government will not give out the information. If the cause of death is syphilis, abortion or anything else

that might embarrass the family no one ever knows as the government guards the information.

#### LARGEST SOCIETY

The Illinois State Medical Society carries with it a rather unique distinction in that one of its component bodies is the largest local medical society in the world. The Chicago Medical Society has a membership of approximately 4,200 members. In each of its numerous branches it is doing work of which we are all very proud.

During the summer this Society sponsors a series of summer clinics covering every branch of medical science, which attracts medical men from all parts of the United States, Canada and Mexico.

The largest hospitals are cooperating with the profession in this movement and all are striving to give the best type of service possible. This great undertaking is to be commended highly and should receive all the support and encouragement possible.

#### THE JOURNAL

We have an official organ of our Society which has gained a place in the realm of medical publication of which we are exceedingly proud. To quote from a letter, one of many of like character received by our secretary on receiving a subscription renewal, the writer states:

"I consider your JOURNAL the most progressive scientific journal published. It gives you an insight to everything medical and at the same time is never extreme. It gives more space to the interest and progress of the Medical Profession than any other journal published."

The editorials appearing in our JOURNAL have attracted world wide notice which has been evidenced by communications commending them from most every state in the Union, province of Canada and several countries of Europe.

It has for years consistently denounced paternalistic movements foisted upon the medical profession by state and national government. Was one of the first to expose the Sheppard-Towner and Kollantai propaganda and the Birth Control movement.

We are fortunate indeed in possessing a fearless writer who has the gift of seeing the outcome and results of matters pertaining to the wel-

fare of the profession long before they are forced upon them for consideration.

Dr. Charles J. Whalen as Editor of the ILLINOIS MEDICAL JOURNAL has accomplished much for the profession and the public through his editorials.

#### RADIOLOGY SECTION

To the new section on Radiology we give a hearty welcome and feel that we will all profit greatly by their addresses and papers given in the section.

#### REGULAR MEDICINE

Medical Science has ever kept its eye on the goal of idealism, working unselfishly for the welfare of the human race.

It has ever taught that simple truth and common sense are at the foundation of treatment of all human ailments, that there is no mysticism or miracles about the regular practice of medicine and that all disease is the result of the immutable workings of Nature's laws and that care of disease depends on the same principles.

Nature's laws work in the same interest for the lower forms of life as the highest and to know the application to both forms these laws must be mastered.

The road of Medical progress in its upward growth is strewn with the wrecks and decident remains of the cults and quackery in all their forms.

Each has had its rise and fall as the seekers of truth have made their onward march.

They are with us today and after they have fallen by the wayside, other forms will take their place, each a parasite trying to gain a place in society, but founded on ignorance and greed, soon to disappear to return only under another name and different garb.

No great enterprise but has had its imitators and none has been so persistently harassed as the medical profession, which works not for its own profits, but for the good of all the people of the earth.

"In all the long list of achievements that have brought permanent benefit to mankind, not one is the product of a cult nor an exclusive system of treatment.

"Not one discovery of the cause of communicable disease or the means of its eradication has come except through the agencies of real honest



and unselfish medical service, based upon rational natural laws."

#### ECONOMIC VALUE OF PROFESSION

Just a word on the economic value of the Medical Service to the public as a whole.

In our own state our death rate per 100,000 population from Malaria was lowered in the last 46 years from 36.1 to .86.

For Typhoid Fever—66 to 4.5.

For Tuberculosis—140.5 to 77.9.

For Diphtheria—122.9 to 5.7.

For Scarlet Fever—44.4 to 3.7.

For Whooping Cough—15.8 to 4.4.

These figures are still too high in each of these diseases, as they are in the case of those diseases of middle life that are on such rapid increase at the present time.

#### PUBLIC EDUCATION

Our problem of the future is one of enlightenment of the public on what can be done for them in prevention of disease and in how to keep fit by a regular annual or semi-annual health audit; the importance of reporting immediately any irregularity in any of the body functions from normal.

Your speaker believes that a comprehensive educational plan coordinating harmoniously the efforts of all the lay health organizations, with the public health service of the United States, under the guidance and leadership of organized medicine, will reduce mortality, minimize morbidity and increase the span of life of the average citizen to the maximum.

#### CLINIC

The teaching clinics inaugurated during the administration of our past president, Dr. J. C. Krafft, have been an innovation that has been popular and instructive to a marked degree and it is to be hoped that they will continue as a feature of the annual meetings in the future.

#### VISITORS

We are very grateful to those visiting members of the profession from other states who have so graciously responded to our invitation to be with us at this meeting and let us share in the results of their experience and observations in their several specialties.

In closing I wish to thank the council, members of the committees and officers who have so

faithfully served the Society, for their loyalty and untiring devotion to the organized profession of the State of Illinois.

It has been a privilege and a pleasure greater than I can express to have served you.

#### METHOD OF ORGANIZATION, AIMS, PURPOSES, AND WORK DONE BY THE ILLINOIS STATE MEDICAL SOCIETY\*

H. M. CAMP, M. D.

MONMOUTH, ILL.

The Illinois State Medical Society was formed at Springfield in 1850, by twelve medical pioneers from various parts of the state, who met under difficulties because they believed that it was essential that medical men should band themselves together in an organization for their own mutual benefit, and because they thought they could under such conditions render better service to those who employed them. A study of the preamble to the Constitution written for the occasion, shows six distinct purposes for the organization.

1. To supply more efficient means than has hitherto been available to cultivate and advance medical knowledge.
2. For elevating the standards of medical education.
3. To promote the usefulness, honor and integrity of the medical profession.
4. For enlightening and directing public opinion in regard to the duties, responsibilities and requirements of medical men.
5. For exciting and encouraging emulation and concert of action in the profession.
6. For facilitating and fostering friendly intercourse between those engaged in the medical profession.

These purposes although written 77 years ago, could hardly be improved today. These sturdy pioneers in medical organization, had a stormy battle before them, and their efforts for a number of years were great in proportion to the advancement in the organization of county units. An annual meeting was held with the exception of the years 1861 and 1862, when so many members were in military service that it was impossible to get enough members together to con-

\*Presented June 24th, 1927, at Annual Meeting of Illinois Bar Association, Champaign, Illinois.

duct a meeting. The Illinois State Medical Society today has 94 component County Societies throughout the State. In a few instances, where there are only a few physicians in the county, two adjoining counties have united to form a society.

We have in Illinois, the largest local medical society in the World. The Chicago Medical Society, with its fifteen branch societies, has approximately 4,200 members, and it has done a great work.

The Chicago Medical Society arranges an excellent program of Summer Clinics given at the leading Hospitals of Chicago which gives clinical experience to hundreds of physicians of the Middle West.

We consider the County Medical Society the basic unit of medical organization. The County Societies comprise the State Medical Societies, as do likewise the many State Societies of the country comprise the American Medical Association. Each County Society has received a Charter from our State Society.

Membership in the County Society automatically makes the member also a member of the Illinois State Medical Society.

The membership of the Illinois State Medical Society on May 1st, 1927, was 7,247 members. There has been a steady increase in membership annually for several years. We hope ultimately to have within our Organization, every ethical and eligible physician in the State. (74% eligibles now members.)

The House of Delegates is composed of members from each component Society, the larger Societies being entitled to more than one member according to the membership of its own Society. The House of Delegates is the Legislative body of our Society, and meetings are held annually during the regular Annual Meeting of the Society. The Council is composed of twelve members from ten Councilor districts, and the work of the Council is similar to that of a Board of Trustees.

Meetings are held several times during the year, to transact the routine business of the Society between the Annual meetings.

Our Society is divided into five sections for Scientific work, and each member can register in either of the Sections at the Annual meeting according to his own professional inclinations.

The programs of these sections at the annual meeting are equal to those of any medical Society meeting in the country. Illinois is generally recognized as being the Medical Center of America, and we are indeed fortunate to have within our Society speakers and clinicians equal to those found anywhere.

The official organ of our Society is the ILLINOIS MEDICAL JOURNAL which is a monthly publication, and is given free to each member. In addition to the membership subscriptions, we have hundreds of physicians in every State, and in a number of Foreign countries who receive it, and the comments from these outside subscribers are very complimentary. The Journal is considered one of the leading scientific medical publications of the Country.

Our Society has a number of standing committees, each of which has specified duties to perform.

Among these are our Legislative committee, and Medico-legal committee.

In addition we have two unusually interesting Council committees, the Educational Committee, and Scientific Service Committee.

The Medico-legal committee has charge of and defends our members against claims and suits for civil mal-practice. We employ a member of your honored profession to act as our General Counsel, and our present Counsel has acted in this capacity for us, for a number of years.

The Legislative committee consists of three members, one of whom resides in Springfield.

This committee gives their attention to bills introduced in the legislature which would affect medical practice.

We do not use lobbies, taking up the time of the busy legislators who do not like it, nor do we ask our thousands of grateful patients to write or wire their legislators to favor or work against any measure. Our sole objective is to present our appeal to legislators in a non-dictatorial way, trying to show them the effects on the citizens of Illinois, if the proposed legislation is made a law. It is quite probable that there are as many bills introduced at each session of our legislature relative to medical practice, in its many forms, as there are relative to any other subject, or profession. Each of the 57 varieties of the non-medical practitioners want an independent board, and to prescribe



their own educational requirements which frequently means that some educational institution does not want to meet the requirements prescribed by the State of Illinois, but to the contrary, compel the state to change the laws to meet with their own individual conditions.

In our opinion, if the bars are let down, it will be necessary to create many conflicting boards at an enormous expense to the state, and likewise endanger the health and lives of our citizens.

It is quite probable that nothing pertaining to Medical Practice in Illinois and the motives of our Society, is misquoted more and understood less than our attitude relative to the so-called non-medical healers, and their regulation by law. It is generally known that the earlier a diseased condition is recognized and the proper measures instituted in combatting it, the better the chances for ultimate recovery. This does not only mean the use of drugs, but instructions relative to habits, diet, exercise, and also the use of surgery.

In order that they may be able to recognize diseased conditions early, and make the proper diagnosis, which usually suggests the remedy, every man or woman who professes to treat human ailments by any means must have a thorough knowledge of the basic, fundamental subjects relative to the body in health and disease. These are especially anatomy, physiology, chemistry, hygiene, histology (study of normal tissues) and pathology (study of diseased tissues.)

No one can be a specialist in any branch of medicine or surgery, until he has first taken the regular course taken by our general practitioners. There are so many diseases where the symptoms which take the patient to the physician are far distant from the seat of the trouble, and again changes in some organs are secondary to some other trouble. For example, many eye disturbances are only secondary to some serious trouble away from the eyes, as perhaps, the kidneys. It is quite obvious, therefore, that a thorough investigation must be made to find the original cause, or perhaps other conditions elsewhere which may have a strong bearing on the situation. The mere treatment of symptoms is not sufficient to give the best hope for recovery.

It is our belief that the primary function of

the State in the regulations of Medical Practice, which includes all types of healing whether by drugs, surgery, or only manipulations,—is to make all doctors competent, and be sure that they are well qualified to care for the sick before issuing a license to permit them to practice their professions.

Our State does not limit a person in their choice of a physician but it does claim the right to see that the public is not imposed on by incompetent practitioners who claim to have a knowledge of health and disease which they do not possess.

We do not believe in any side or back door entrance to medical practice, but we do believe that every candidate for any type of license which permits him to treat the sick or disabled should be able to recognize symptoms of disease, and should be capable of making an accurate diagnosis. He should obviously be familiar with normal structures and functions, for otherwise how could he be expected to recognize the abnormal?

The present medical practice act of Illinois is not in any way discriminatory. The non-medical practitioners are required to take an examination in the basic fundamental subjects previously mentioned, and which are essential to the knowledge of the human body in health and disease, similar to that given to the medical candidates.

When it comes to therapeutics, or the use of a system of treatment, they are examined by a member of their own profession, and the records will show that probably as many if not more of the non-medical candidates are rejected by their own examiner, as by the men giving the basic subject examination.

History is filled with the names of medical men who have done things to help humanity. Many of these men have died martyrs and victims of the diseases which they have attempted to conquer.

The results of these investigations, and the intensive research work done by medical men is shown by the marked reduction in the death rate from many diseases, such as smallpox, diphtheria, typhoid, malaria, yellow fever and tuberculosis. It is not only possible to check many diseases by the use of serums and vaccines, but also to immunize the people against them. Diphtheria and scarlet fever are two of these diseases against which we can be immunized;

others are typhoid, smallpox and to a certain extent, tetanus.

The value of many of these procedures is shown by a contrast of the cases of illness during wars of years ago and during the recent World War. Typhoid was very prevalent during the Spanish American War, while in the last great war, practically no cases were seen.

Thousands of cases of tetanus were seen during the Civil War, and practically none in the recent War. There are a number of other instances of a similar nature which we will not take the time to mention now.

The medical profession to my knowledge, is the only one in this country which has done so much to limit its own income, by lessening the number of diseases, through the concerted efforts to check the ravages of many of them.

Not one of the non-medical schools has done a single thing to my knowledge which has in any way added to our knowledge of disease, its cause, or methods of minimizing the same.

Many of the schools which have been constantly endeavoring to have the laws changed to favor them and their graduates, claim that their methods of healing are entirely harmless.

Ignorance on the part of one of these so-called "harmless" practitioners may result in the death of citizens of our State. Imagine for example, such harmless manipulations being used in diphtheria, without the use of antitoxin, in the case of a ruptured appendix, a perforation of the stomach or gall bladder, where only immediate surgery can give relief and you will see the point we wish to make.

Perhaps a better illustration would be to compare our ideas along this line with the use of another profession.

Suppose in a given community, there resided a banker, who was a prominent citizen, member of a church, and a public spirited gentleman in every respect. A bank examiner is sent by the State to examine the condition of his bank. After the examination, the examiner says, "Mr. Banker, I have examined the condition of your bank, and I am sorry to inform you that I must order the doors closed, and if you take a single deposit from this time, it will be a penitentiary offense. I find that you have too many frozen assets." The banker replies, "Please do not do that, it will ruin me. I am

an honest man, and if you will only permit me to continue my business, I will pay every dollar that I owe." The bank examiner can only reply, "The State law of Illinois says you must meet the requirements of the banking Department of our State, and until you do that, you cannot continue as a going concern."

Now suppose that the banker goes to his legislator friend, who is probably a prominent attorney in the community, and asks him to introduce a law that will make the Banking department recognize his depleted institution. What reply would you expect? The legislator would say, "It is out of the question to do it. You are endangering the financial status of your community. The people of your own town are liable to lose their savings, if we take the basis of your institution for a State law, and we cannot introduce such a law."

After all, which is really of greater importance to a community, its financial status, and the guarding of the same by law, or the health conditions, which should be equally guarded?

Why should our legislators recognize by law, an incompetent practitioner who does not profess to have the basic fundamental education relative to the human body in health and disease, and who wants laws passed to meet with his own conditions instead of educating himself to meet with the requirements already prescribed?

Unfortunately, many members of our Public are as incapable of judging the educational qualifications of a doctor, as they are in judging the stability of a bank, and that is the reason why our Society through the Legislative committee asks the legislators to acquaint themselves with the individual problems where human lives are at stake, so that they can make the decision, instead of the interested patients, and their health advisors.

One of the interesting activities of the Illinois State Medical Society is the Educational Committee, which maintains a central Bureau in Chicago and which we believe is doing a great work.

This work was begun about four years ago for the purpose of giving health information to the people of Illinois.

The medical profession of America is far ahead of the rest of the World in this type of



work, and our own Society is a pioneer in its advancement.

At the present time, the activities of our Educational Bureau are along five definite lines.

1. Speakers' Bureau.
2. Radio talks.
3. Scientific Service work.
4. Lay organization contacts.
5. Newspaper service.

During the past year, approximately 1,500 speakers have been sent out to talk before lay audiences on health subjects of popular interest.

The speakers are sent only upon request from the host organization, which may be some dinner club, Women's Club, Parent-teacher Association, Farm Bureau, religious or fraternal organizations, etc.

The reports from many of these meetings have been very encouraging and show the importance of the work.

Radio health talks have been given from five or six of the larger radio stations in Illinois. Ten minute talks have been made on subjects of general interest, and the results of this effort are shown by the many complimentary letters which have been received, asking for more information on some subjects given, or perhaps a copy of the address.

All materials used have been carefully censored, and there is no danger of a speaker saying anything that will advertise himself or that will discredit others. The Scientific Service Committee work is one of our newer activities which we are all proud of. The entire practice of medicine, surgery and the various specialties has been carefully gone over by men best fitted to select subjects in each branch.

Members from all parts of Illinois who are best fitted to talk on any subject outlined, are "card-indexed" and subject to call.

The object is to furnish speakers and clinicians to go before our County Medical Societies and talk, or conduct clinics for the benefit of the members.

It is virtually a post-graduate course taken to the various home communities of the State. Clinics are being held throughout the state under the auspices of the county medical societies, and the results have been very encouraging.

Crippled children's clinics, for example, are being held by men of prominence in the profession who limit their work to that subject. By

bringing such men into local communities, it is possible to give even the indigent families the best care that is possible at their own home.

We are very fortunate in Illinois in having four class A. Medical Schools, and the faculties of each institution have cooperated with us in our scientific service work, which has been a decided factor in its success and popularity.

There are many different types of organizations in Illinois interested in some of the many phases of health work. During the course of one year comparatively recently, the Director of the Department of Public Health at Springfield received requests from approximately sixty different organizations for some assistance in carrying out a program of health work. It can be readily seen, with so many organizations undertaking some phase of this work, there would naturally be an unnecessary overlapping of service, to the detriment of all concerned.

Our Society has, therefore, undertaken to coordinate these various activities so that all health work in a community can be done under the supervision of the County Medical Society, for we believe that men trained to do health work can naturally direct such activities to the best advantage.

Through these contacts, and by this type of cooperation, we have been able to give better health service in the various parts of the State. Among these organizations which are rendering assistance, are the Federation of Women's Clubs, Parent-Teacher Associations, Child Welfare Department of the State Health Department, the Illinois Tuberculosis Association, Farm Bureaus, dinner clubs, etc. We have also, through this service, strengthened the bonds between our own and the Dental profession.

Our educational department has been furnishing health articles for publication in about one hundred newspapers in Illinois. These articles have been carefully edited and so written as to give the best information available on the many subjects discussed. We endeavor to give each community the information that will be of greatest value to them at the time. If an epidemic is prevalent in any part of the State, articles pertaining to that particular disease would be naturally of greatest interest to the people. At the present time, through cooperation with our Society, the *Chicago Herald and Examiner* is printing daily, a series of health

articles furnished by our Educational Department, which are prepared carefully by acknowledged authorities on the particular subject, and each author is a member of our Society.

One of our major activities of the past three years, has been the promotion of Periodic Health Examinations.

It is a generally recognized fact that the earlier a diseased condition is detected, the better the chances for recovery, or at least, improvement. Still better, if these conditions could be prevented before they actually begin it would give the maximum result. We believe that it is more important for the average business or professional man to have an annual health inventory than to have an annual financial inventory, and no one will question the advisability of the latter. Man's greatest asset is health, and he should endeavor to retain it as he does his other assets. This applies particularly to the man who is reaching middle age,—that period when his hair begins to turn gray, or disappears from his anatomy, when his waist line begins to increase, and he tires more easily on exertion. How frequently do we see a man at the height of his business or professional career, cut down without warning, from one of the several conditions which are so common in the middle aged? Many have suggested that the most fitting time for a periodic examination is on the birthday, and how could a man spend a more profitable birthday than in the checking up of his physical condition?

Many diseased conditions have what we call pre-clinical signs, or symptoms which may be detected during the progress of a complete physical examination. During the past two years, our Society has on two occasions, conducted periodic health examinations on Dentists at a Dental meeting in Chicago, attended by no less than eight thousand Dentists. A few of those examined were found to have diseases previously undetected, which made their presence at the meeting, extremely hazardous to themselves; others were shown to have abnormal conditions which needed immediate attention, with perhaps a change in their daily routine to permit them to live out their life expectancy.

The happiest men we meet in our profession are those men of middle age, whom we have pronounced excellent physical specimens. These

are the men who come to us at fairly regular intervals,—as they go to their Dentists, for this type of examination. A complete Dental examination is also a part of the periodic health examination.

It seems rather strange that in planning our lives, but few of us give any serious consideration to the one thing which is most likely to change our plans, or even entirely eliminate all of them;—sickness and death. We consider every other possible source of failure, but overlook these entirely.

There is no question that regular physical examinations will lessen the mortality of many diseases.

During the past fifty years, the average span of life of the American people has increased from thirty-five to fifty-eight years. In addition to this the number of cases of many diseases has been materially reduced.

Although most diseases have been reduced there are unfortunately a few which have been increasing. Heart disease, cancer and diabetes are the most notable of these conditions, and their early detection would cut down their ravages considerably.

It might be of interest at this time, to consider the leading causes of death in Illinois. Heart disease in its many forms, causes more deaths than any other condition. Cancer is second on the list, accidents third, kidney troubles fourth, apoplexy fifth, pneumonia sixth, and tuberculosis seventh. These seven conditions take the lives of approximately 80% of our citizens.

The attitude toward disease today in this country, is different from that of a few years ago. People no longer fear the truth, but realize that it is to their advantage to know as early as possible, the presence of disease, so they can take the proper steps to help themselves most. We believe that this part of our educational program has been a decided factor in the reduction of disease. Other factors of course, are the modern methods of treating many diseases, such as through the use of serums, vaccines, and other somewhat similar measures. The medical profession in America has not been handicapped in their work, as have the profession in Europe, where they have labored under the pernicious system of State Medicine. We believe that the State or Federal Government should not give



medical treatment any more than they should subsidize the practice of law, run the grocery stores, or control the ministry.

During the past ten years, we have several times been threatened with paternalistic measures introduced into our legislatures, but fortunately they have on each occasion been defeated. Such procedures, as in Europe, would only lower medical service, kill all incentive for post graduate or special work and lower the standing not only of medical men, but also of medical educational institutions. The medical profession in Illinois believes that the people should be thoroughly advised as to the effects of such measures, and with the assistance of the Legal profession and legislators, we should not have our work in any way subsidized. Any system of State Medicine in Illinois would endanger the health of our State more than words can tell, in our opinion.

There are corporations in our State which not only furnish medical aid to their employees, but also to their families. We believe that such service outside of that prescribed in the Workmen's Compensation Act is unfair, unjust and should be abolished. We believe there is a law in Illinois prohibiting corporations from practicing law, and if a bill should be introduced in our legislature prohibiting their practicing medicine, we will appreciate your assistance. The public has been led to believe that the practice of Medicine consists only in the use of drugs and surgery. This, however, is not the case. The Medical profession has in its possession, the health records of the world dating back nearly 2,300 years. Everything that has a definitely proven value is used, and we are not at all limited in our choice of methods in a given case.

Our Medical Organizations are not a "medical trust," as has often been stated by our opponents, but to the contrary Medical Organizations have been to a great extent responsible for the improved health conditions seen today.

In closing I wish to state that the Illinois State Medical Society has endeavored to bring into one compact organization, the medical profession of our state, attempting in every way possible to extend medical education, advance medical science, and to enlighten the public in regard to health matters, so that the people of

Illinois can get that high type of medical care which is essential to advancement along other lines.

### INSULIN\*

ELLIOTT P. JOSLIN, M. D.

New England Deaconess Hospital

BOSTON

#### DIABETIC DEATH RATE FALLING IN MASSACHUSETTS FOR ALL PERSONS UNDER 50 YEARS OF AGE

The diabetic death rate is falling precipitously in Massachusetts for all persons under 50 years of age, is stationary for old men and reached its peak for women in 1922. It is continuing to rise both for white and colored females according to the statistics of the Metropolitan Life Insurance Co. Diabetics are not immortal, but in my series they average a decade older when they die than half a generation ago. Prior to 1914 the average age at death of my cases was 45 years, but since the discovery of insulin it has been 54 years. The proportion of children's deaths from diabetes to the total deaths of the disease is lower now in Massachusetts than at any time in this century.

The above statements, although they do not all apply to the entire country or to the Metropolitan Life Insurance Company, I believe represent the tendency in diabetes today. Such a transformation in the course of a chronic disease could have been brought about only by so wonderful a discovery as insulin.

*Extent of Use of Insulin.* More than one-third of all the diabetic patients I have treated since 1898 have taken insulin. Half of all my living patients have taken it or are taking it. Of the 564 new and 574 old diabetic patients treated during the year ending July 1, 1926, 735 took insulin; 375 of these were new cases, 360 were old cases. There are now 199 living diabetic children in my lists and of these 163 are known to be taking insulin. (As of date July 1, 1926.) This shows that I believe in insulin.

In Table 1 is shown the number of diabetic patients who have taken insulin in each successive 1,000 cases which have come under my care. Incidentally the true diabetics are recorded for

\*Oration in Medicine, at the 77th Annual Meeting of the Illinois State Medical Society, at Moline, June 1, 1927.

each 1,000 cases for obviously only the true diabetics would receive insulin. It is cheerful to note that 40 patients in the first thousand lived long enough to take insulin. Of this number in the last four years 12 have died, but as can be seen in Table 2 only one case died of diabetic coma. Succeeding thousands, as might be expected, show a steady increase of patients receiving insulin up to the fourth thousand. From here on the percentage remains constant and approximately two-thirds of the true diabetics are now using this drug. The total number of patients who have received insulin between August 7, 1922 and July 1, 1926 is 1,535.

TABLE 1. DIABETIC PATIENTS WHO HAVE TAKEN INSULIN

Series	True Diabetics	Total Insulin Cases		Fatal Insulin Cases	
		Number	Per cent	Number	Per cent
1-1000	906	40	4.4	12	30.0
1001-2000	865	76	8.8	12	18.4
2001-3000	834	199	23.9	44	22.1
3001-4000	843	530	62.9	122	23.0
4001-5000	809	513	63.4	54	10.5
5001-5350	284	177	62.0	10	5.7

Unfortunately insulin is not as universally employed. Among 1,800 deaths from diabetes reported by the Metropolitan Life Insurance Company, 1924-1925, it was used in only 62 per cent. of the cases of coma and in but 36 per cent. of the cases without coma or complications. The greater the population of a city in which patients lived the more apt they were to receive insulin. Thirty-five per cent. of the cases had received insulin for less than a week before death. Fortunately children received it the most, 72 per cent.

*Justification for Use of Insulin.* My justification for giving insulin is as follows. 1. The Abolition of Coma. Prior to 1914 66 per cent. of my fatal cases of diabetes died of coma. Eighty-seven per cent. of those who died the first year of the disease died of coma and coma destroyed all the children. Even as late as 1922, 51 per cent. of the fatal cases thus far had succumbed to coma. Last year, and I cannot take a new census until July 1, 1927, the total deaths from coma among 1,138 diabetic patients, who came under my personal supervision in 12 months, were 6, or 10 per cent. of the 60 fatal cases for the year and none of these 6 deaths occurred in a hospital. Since the introduction of insulin the per cent. of total diabetic deaths in Jews due to coma has also fallen to 10 per cent. The Jews have been quick to take advantage of modern treatment. A few years ago

their mortality compared very unfavorably with that of other patients. Last year the total number of deaths among 185 diabetic children was 5 and none of these occurred in a hospital. Formerly diabetic children lived on the average two years. Last year alone more than 11 months were actually added to the life of every diabetic child in my group. Thus one year saw an increase of nearly one-third of the total duration, 2.6 years, of fatal diabetes in children as late as September, 1926.

The single case of coma occurring among the 12 fatal cases of the 40 patients in the first 100 cases has been cited. In the second 1,000 there was no death from coma though twice as many took insulin. In the third and fourth thousands a third of the fatal cases died of coma, but these cases represented the period when we were first attempting the use of insulin. In the last two to three years the deaths from coma are but 10 per cent. of the total mortality. Yet in the Metropolitan Statistics coma causes 47 per cent. of the deaths.

TABLE 2. FATAL CASES OF DIABETES  
THESE PATIENTS HAVE TAKEN INSULIN INTERMIT-  
TENTLY OR REGULARLY

Series	No. of Fatal Cases	No. of Coma Cases	Per Cent
1-1000	12	1	8.3
1001-2000	12	0	0
2001-3000	44	15	34.0
3001-4000	122	37	30.3
4001-5000	54	11	11.1
5001-5350	10	1	10.0

Coma is abolished as a cause of death from diabetes in hospitals. Education will abolish it in the home. With coma abolished why should a diabetic die?

It is easy to record the causes of death of a series of diabetics as given on the death certificate, but that is not the point. We know that a third of our diabetic patients today die of cardiovascular and vascular conditions, a fourth of infections chiefly finding entrance to the body through the skin, and a tenth each of cancer and coma, with a still smaller percentage of tuberculosis and the balance of miscellaneous conditions related but little if any to diabetes. But what really concerns you and me are the reasons for these causes of death and particularly for coma.

Take for example the group of 34 diabetic children who have died since insulin was discovered. Why did they die and why this last year were there even 5 deaths among 185 children? A study of the protocols shows that 9



never had insulin, due in large measure to their death so soon after its discovery. There were four others concerning whom the use of insulin is in some doubt. Among the remaining 24 insufficient insulin was a factor, just as it was in one of my own two cases who died of coma in insulin's early days. There were a few cases in which the doctor deliberately did not give insulin and for certain of these cases there was some justification. One patient who had repeatedly broken diet, according to the doctor, developed so severe a laryngeal obstruction that a tracheotomy alone would save life. The doctor did not believe it worth while to subject the patient to this operation, because he felt confident that the diet would shortly be broken again. Probably the doctor was not aware that one of our patients entered the Deaconess Hospital in coma, developed laryngeal obstruction, but through prompt co-operation of the Contagious Department of the Boston City Hospital was relieved of her obstruction by intubation, brought out of coma, eventually recovered, is now in excellent condition, goes to school and at odd times works for me. I suspect that several of these patients who went into coma really died of it because their physicians could hardly believe it was possible with insulin to bring them out of it. I attribute the deaths of these children most of all to lax supervision. The diabetic child must be kept sugar free. Certainly this can be accomplished for a considerable portion of the day, and I believe it will not be long before we learn how to do this the entire 24 hours. With lax supervision there is more opportunity for ignorance and disobedience, both regrettable and in some cases pardonable. These are the real reasons why these children died rather than of the coma itself. Diabetics young and old should be careful, adhere to the diet, keep sugar free, and remember how many patients years ago were rewarded by waiting for insulin, and like them await further advances in treatment. There was only one case in the whole group in which hypoglycemia seemed a possibility as a cause of death and the evidence in that case is by no means conclusive. I only know of three patients who deliberately gave up insulin and diet, Case 3179, 3953, 4661.

Coma should be looked upon as a cheerful cause of death by the living diabetic. It is an avoidable death and one that intelligence will allow him to escape.

Criticisms are sometimes raised against the doctor who cautiously diets his patient in the old orthodox fashion and he is blamed for having given deficient food and deficient insulin to metabolize it.

In my experience the patients with the liberal diets and much insulin are fully as liable, and I think more so, to break their diets and go into coma, than are those who have been trained to lead the Spartan life. I think the explanation of the small mortality among my patients compared with previous years, is explained by the use of a better system of following them up. Despite the labor involved, the saving of life makes it worth while.

2. The Prolongation of Life of Diabetic Children. A second justification for the use of insulin is the prolongation of the life of children which has occurred since its discovery. It is true that formerly the occasional diabetic child lived a decade and I have had 8 such, 3 dead and 5 now living, but the average duration was 2.4 years up to 1922. Today I have 51 living diabetic children who have had the disease 6.7 years and my 201 living diabetic children on the average have had diabetes 3.8 years. Already I have said that 11 months of diabetes on the average was added to the life of each of my diabetic children during the year ending July 1, 1926.

Time will not be taken to go into detail regarding the change in the spirits and the strength of the patients, both mental as well as physical, which also justifies my use of insulin in a half of all my patients and two thirds in fact of all who have consulted me this past year. The question almost resolves itself into who ought not to take insulin.

*Who Should Take Insulin.* Any diabetic who cannot keep the urine free from sugar and the sugar in the blood normal and himself in good health with the diet allowed should take insulin. Good health, not tolerable health, is the right of the diabetic today. Furthermore insulin is desirable temporarily for those who do not need it, simply as a matter of education and insurance. An infection makes a diabetic worse and any diabetic therefore may be faced suddenly with the necessity of using insulin. If he has been educated in its use, insulin represents so much

accident insurance which can be drawn upon immediately.

Insulin is also given by me to save the patient money and time and to save the hospital beds for surgical and other emergency diabetics who cannot be satisfactorily treated in their homes. With 30 cents worth of insulin one can save ten times that amount of money, because the patient can be made sugar free so much more rapidly. Perhaps a fifth or a fourth of my patients give up insulin upon leaving the hospital. I never urge insulin upon a patient save of course in coma or in infections or in a surgical or other emergency such as hyperthyroidism. I am perfectly willing to treat the individual by under-nutrition and bring him back to a fair condition of health by the methods I employed for nearly a quarter of a century. But such treatment never lasts and seldom the week has gone by before the patient begs for insulin. Patients of this sort are the best patients, because they have character and can be trusted to use insulin intelligently when they decide to take it.

*Regeneration of the Islands of Langerhans.* Is not regeneration of the pancreas promoted by insulin and is this not the real reason why it should be given, I hear you ask? One's whole attitude toward diabetes is involved in the answer. Despite Allen's statement that diabetes is not progressive, I am forced to acknowledge and quite against my will that my severe diabetics in the past without insulin lost ground, but conversely I believe that many of the diabetics in middle life, who were only moderately severe or mild, after the lapse of time grew less severe and in not a few the diabetes appeared to "burn out." My conception of the matter therefore is this. The severe diabetic, and that class included practically all the children, died too soon to take advantage of the element of time which would allow for regeneration. Insulin makes possible regeneration by providing the time in which it may take place. Most will concede that insulin acts favorably by promoting normal bodily conditions, notably of the blood, but far and away above all else is the time factor as I see the problem of pancreatic regeneration today. Hence in diabetes I fight for time and constantly remind myself that the first requisite for a long life is to live today.

Regeneration of the Islands of Langerhans is probable for three reasons. First, there is no

such state as "complete" diabetes clinically. Complete diabetes vanished in the Allen Epoch. Von Noorden never believed in it, I could never find it despite the 113 cases of severe diabetes which Benedict and I studied so laboriously with the respiration calorimeter. Always I have been able to satisfy myself that an apparently complete diabetes was made so, temporarily and usually, by the hand of man. If diabetes was steadily progressive and the pancreas not capable of regeneration we should certainly see examples of it. Second, there is no such state as complete diabetes chemically. Was it not Pollock who found 50 per cent. as much insulin in the diabetic as in the normal organ? Best in 3 of my cases and Baker, Dickens and Dodds in another series all found insulin in the human diabetic pancreas. Third, Shields Warren in a restudy of the protocols and specimens of the pancreases of 8 of my diabetic children, and 2 others also furnished him by Dr. John of Cleveland and Drs. Stansfield and Starrow of Worcester, has found nothing which suggests that the changes in the islands are irreversible. Therefore if clinicians do not see complete diabetes and if chemists and pathologists do not find it, why should any one expect it to occur?

*The Minimum Carbohydrate for a Diabetic.* Another specific question you may well ask which influences the decision to give or withhold insulin is this—How many grams of carbohydrate should a patient tolerate without making it necessary to use insulin? I wish I knew.

If a patient cannot tolerate 70 grams of carbohydrate I strongly advise him to take insulin and as a rule I advise it if he cannot take 100 grams. Recently I omitted it with one patient, Case No. 4528, who had used it for more than a year because he was constantly sugar free on 150 grams of carbohydrate though originally he had a high percentage of glycosuria, 3.5 per cent., and took for weeks 11—22 units of insulin daily.

The whole question resolves itself around the query—how much carbohydrate should a normal individual ingest to maintain good health indefinitely? If a diabetic or a normal individual for that matter weighing 60 kilograms takes carbohydrate 100 grams, protein 80 grams, and fat 150 grams, he will have 2070 calories which will more than suffice his needs at a sedentary occupation. Such a diet is so balanced that the



glucose fat ratio is 1:1 in contrast to the old Voit diet C. 500, P. 125 F. 55 which was 5.8:1, or what I consider to be more nearly the standard American diet C. 400 P. 100 F. 100 of which the ratio is 3.5:1. Upon what diet will the individual live the longest and with the most efficiency? Is a diet with a glucose fat ratio of 1:1 safe for a healthy individual? If it is not, then we must strive to raise the carbohydrate for our diabetics, because we expect them to live long too. On the other hand naturally we do not wish to give the diabetic more carbohydrate than is essential, because lack of ability to utilize carbohydrate constitutes his disease and one should not throw an unnecessary burden upon the pancreas.

I believe that an excessive amount of fat in the diet of a diabetic tends to the development of arterio-sclerosis. Arterio-sclerosis in diabetes is increasing along with the duration of the disease. It is very rare that one finds a diabetic of over 10 years' duration who does not show it, no matter whether young or old. A third of the diabetics die of arterio-sclerosis and the chances are that the percentage will be still higher, because the diabetic now dies old. Thus the average age of the 60 who died from last year's group was 59 years. If 100 grams of carbohydrate in the diet will not suffice to defer arterio-sclerosis, I shall use more insulin and give more carbohydrate. In the first years of treatment of the disease it has not appeared to me justifiable to give so much. With time this is becoming more and more possible.

#### *High Fat Versus Moderate Fat in the Diet.*

The place of fat in the diet of diabetics is disputed. Insulin has delayed the acquirement of knowledge about its usefulness, because patients today take so much carbohydrate that they need less fat. The disciples of a high fat diet in diabetes are Petrén in Sweden, and in this country Newburg and Marsh.

Recently Petrén has published a table of the diabetics treated at his Clinic in Lund between 1911 and 1919, and in this table has recorded those of this number alive in the year 1924, and the percentages of the dead who have died of diabetic conditions. He does not state what these diabetic conditions are, but I have taken for granted he meant to include deaths from diabetic coma, deaths which on the death certificate are recorded diabetes, and deaths from gangrene.

Furthermore, I have also taken for granted that the period included in the summary stops with January 1, 1919, rather than includes the whole of that year.

TABLE 3. DATA OF PETREN

BASED UPON CASES TREATED BETWEEN 1911 AND 1919.  
137 CASES TREATED BETWEEN 1911-1919; OF THESE  
32 OR 23 PER CENT WERE ALIVE IN 1924

Age at Onset	Cases	Living in 1924	Dead of Diabetes Number	Per cent
1-20	31	..	31	100.0
21-35	34	4	30	88.2
36-55	57	18	39	68.4
56-70	15	10	5	33.3

It occurred to me that a comparison of my own data with those of Petrén might be instructive in showing the results of treatment with our two different methods, my moderate fat versus Petrén's high fat. I do not believe our methods are extremely different, because each of us came under the influence of Naunyn and each I am sure would vary the treatment with the type of case. However, both sets of figures are recorded for what they are worth.

For better comparison with Professor Petrén's figures my cases have been grouped in two tables. Table 4 shows the number of my true diabetics who were living on January 1, 1911, which was the end of my first 13 years of practice. Table 5 strictly corresponds with Professor Petrén's series because it shows the new cases who consulted me between January 1, 1911 and January 1, 1919.

TABLE 4. DATA OF AUTHOR FOR COMPARISON WITH PETREN'S DATA

179 OLD CASES, I. E. PRIOR TO 1911, WERE ALIVE JANUARY 1, 1911; OF THESE 163 WERE TRACED AND 47 OR 29 PER CENT WERE ALIVE

Age at Onset	No. of Cases	Un-traced	Living in 1924	Died of Diabetes Coma, Gangrene, D. M.	% of D. M. Deaths
1-20	17	2	2	12	71
21-35	31	3	9	12	39
36-55	100	10	25	23	23
56-70	39	1	2	14	36
71-80	3	0	0	1	33

TABLE 5. COMPARISON WITH PETREN'S TABLE

961 NEW CASES OF D. M. BETWEEN 1911-1919, AND OF THESE 947 WERE TRACED AND 315 OR 33 PER CENT WERE ALIVE IN JANUARY, 1924

Age at Onset	No. of Cases	Living in 1924	Un-traced	Died of Diabetes Coma, Gangrene, D. M.	% of (Coma, Gangrene, D. M.) Deaths
1-20	127	12	1	98	77
21-35	167	47	2	78	47
36-55	474	206	9	132	28
56-70	164	45	2	47	29
71-80	20	5	0	2	10
Unknown	3				
35.55	3 cases—cause of death unknown—died before 1924				
56.70	3 cases—cause of death unknown—died before 1924				

Let us now discuss the tables and for readiness of comparison Professor Petré's figures will be given first, then those of my cases prior to 1911, Table 4, and finally those of mine, Table 5, corresponding exactly with those in his table, Table 3.

In the first age group with onset of the disease under 20 years, Petré had 21 cases and none were living in 1924 and all died of diabetes. Prior to 1911 I had 17 such cases, 2 patients were living in 1924 and 94 per cent. of those who died died of diabetes; whereas between 1911 and 1919, as shown in Table 5, there were 127 cases, and not only were 12 living in 1924, but unlike the figures of Petré only 77 per cent. died of diabetes. In the second age group, 21—35 years, Petré had 34 cases with 4 living in 1924 or 12 per cent. I had 31 cases with 19 living or 29 per cent., for the patients who came to me before 1911 and 167 cases and 47 living, or 28 per cent., for those between the years 1911 and 1919. In the third period Petré had 57 cases with 18 living or 32 per cent., in comparison with my 100 cases with 25 living or 25 per cent. prior to 1911 and 474 cases with 206 living or 44 per cent. for the 1911—1919 series. Finally in the 4th age group, 56—70 years, Petré had 15 cases with 10 living or 66 per cent. compared with my 39 cases with 2 living or 5 per cent. prior to 1911 and 164 cases with 45 living or 27 per cent. for the longer period.

Summarizing all three tables it appears that 23 is the percent. of Petré's cases living in 1924 as compared with 29 per cent. of my cases prior to 1911 and 33 per cent. for my cases between 1911 and 1919. It would seem, therefore, that my cases live distinctly longer. On the other hand it is quite striking that Petré's series of patients between 56 and 70 years of age outlived my patients. A larger percentage of his cases succumbed to conditions he includes under the term diabetes. The conclusion might be justified that in middle life where one deals with the milder diabetic the extra calories, which fat provides, prolongs the patient's existence, whereas at an earlier age, when diabetes is more severe, extra fat shortens the duration because of death from coma.

Arteriosclerosis does not appear to me to be an etiological factor in diabetes. I am led to this conclusion because the longer diabetic patients live the more arteriosclerosis they are likely to

show, and the less severe the disease becomes. If arteriosclerosis was a frequent cause of the disease, the reverse should take place.

The food which is said most commonly to cause arteriosclerosis is protein, but in diabetes many attribute the arteriosclerosis to the high percentage of sugar in the blood, the carbohydrate. Fat appears to me quite as likely and in fact more likely to be a cause of arteriosclerosis in the diabetic than either protein or carbohydrate. The type of arteriosclerosis which is common in the diabetic is that which is associated with cholesterol plaques in the aorta. In fact the type of sclerosis in the peripheral blood vessels of diabetics most frequently is like that of the changes which take place in the aorta itself. It may not be the fat *per se* in the diet which causes the sclerosis, but rather its insufficient combustion. The researches of Bloor upon the reaction of the diabetic animal to fat will be awaited with great interest. The hope for less arteriosclerosis in the diabetic in years to come would appear to be considerable, because insulin will allow a higher percentage of carbohydrate in the diet. Without such hope the outlook for the diabetic would be almost worse than to await coma.

There is one practical reason why I have always hesitated to give much fat to diabetics and that is because excess of calories in fat is so easily taken by mistake. If a diabetic patient takes too much carbohydrate, sugar appears in the urine, he is not apt to take too much protein because it is measured with apparent ease, but fat is so concentrated and so easily consumed that before he is aware a surplus is ingested. An excess of fat generally carries with it an excess of protein in the diet.

*Increase of Surgical Conditions as a Cause of Death in Diabetes.* For a moment may I digress to point out the increase of surgical conditions as a cause of death in diabetes. Many of these surgical conditions are associated with arteriosclerosis, but fortunately I believe the surgery of the future will be preventive surgery and reparative surgery rather than compulsory surgery. How great a part surgical conditions play in the mortality of diabetes today is shown by Root and Warren<sup>1</sup> in a summary of our experience with fatal cases upon whom autopsies have been

1. The Boston Medical and Surgical Journal, 196, No. 21, 864, May 26, 1927.



performed compared with the fatal cases with autopsies reported by Naunyn in his book in 1906.

# RELATION OF SURGICAL DISEASES TO CAUSES OF DEATH, AS PROVED BY AUTOPSY

Author	Date	Number of Cases	Av. age at death	Av. duration in years	Death due to surgical conditions	
					No.	%
Naunyn <sup>1</sup> .....	1906	49	40	3.1*	6	12
Warren and Root <sup>2</sup> ...	1920-1925	26	47	9.0	14	54
Root and Warren...	1925-1926	21	59	4.5	15	71

\*Duration given for only 37 cases.

In the Naunyn series the relation of surgical diseases to causes of death proved by autopsy was 12 per cent. At the Deaconess Hospital between 1920 and 1925 our percentage was 54 per cent., but in 1925 and 1926 it had risen to 71 per cent.

*The Dose of Insulin.* My first dose is small because simultaneously I begin insulin and a moderately restricted diet immediately either upon the entrance of the patient to the hospital, or even when he is treated at home, if the administration of insulin can be safely arranged. He may not receive more than 2, 3, 4, or 5 units, but unless very rapidly becoming sugar free this is raised at each succeeding meal until he is sugar free. This is generally accomplished with 20 or 30 units, occasionally with 15 or 40 and rarely with either 10 or 50. I do not know of a diabetic among the 1535 taking insulin as a routine who employs with my advice over 60 units. One patient for whom I have not prescribed for 4 years wrote me he was taking 100 units. I chanced to see him recently at a medical meeting and he was above normal weight. Another patient did not measure his insulin or his diet, gained 100 pounds, had such severe reactions that he came to the hospital for readjustment. I suspect he took 100 or 200 units a day. Soon after arrival at the hospital he developed a reaction after 30 units and a liberal meal. He was so violent, the convulsions so severe that 4 men were forced to lay him on the floor and even then we could not overcome his strength and give adrenalin or glucose. Eventually he recovered, and his example was valuable for the other patients. This is not the only case which has prejudiced me against large doses of insulin, but I certainly shall try to be open-minded and would like to see a group of cases of diabetes in children who have had the disease over 6.7 years and have

been treated in any manner. It is fortunate for diabetes that we doctors do not all treat it alike. One of my recent children, Case No. 5514, should be mentioned who is sugar free with upwards of 150 grams of carbohydrate. He takes a few units of insulin, less than 5, because though he does not need it now, I believe he like most all diabetic children, will require it later and it seemed better for him to become accustomed to it from the start.

*Daily Number of Doses.* The number of doses of insulin administered during the day varies from time to time with the same patient. At the commencement of treatment three doses are given in a tentative fashion to arrive at the proper total of units and partly to give the patients experience in its use. Later the majority of my patients drop to two daily injections. Nearly as many take it once a day as take it thrice a day and I doubt if there are 10 patients in the 1500 who employ it four times in the 24 hours.

During the course of surgical operations and the convalescence therefrom patients are very apt to receive insulin every 6 hours and not uncommonly every 4 hours in order that no single dose may be unduly large. An insulin reaction is evidence of poor technic in the administration of the drug.

My object at all times is to keep the urine sugar free throughout the day. However there are certain qualifications to this statement. I do not believe in making the urine *suddenly* sugar free either at the beginning of treatment, just before or after an operation, if that has been an emergency, or during convalescence from the same, if it is evident that suppuration must take place for some time. During infectious processes of a suppurative nature insulin must invariably be increased in quantity and in frequency of dosage and although the patient can be made sugar free with insulin I would rather allow a little sugar in the urine for a day or two in the exceptional case than to give over 100 units. Real danger from an over dose of insulin occurs in such cases, because the infection may unexpectedly subside and coincidentally with this the diabetes become suddenly submissive to treatment.

Neither in cases of diabetes associated with heart disease do I approve of large doses of insulin or in trying to reduce the blood sugar to

normal save slowly and with care if each step in the process works well.

Insulin in coma is a distinct problem and can hardly be covered in the few words I wish to devote to it. Seldom are more than 200 units required in the first 24 hours, occasionally only 40 units. Only once have we given over 400 units during the first day at the Deaconess. Forty units are used every hour or 20 units every half hour or even every 15 minutes. The subcutaneous method is invariably preferred, save when the circulation is at so low an ebb that one can not believe insulin can be absorbed, it is injected into the vein, but at the same time the usual subcutaneous dose is given as well.

In 63 consecutive cases of diabetic coma or impending coma at the New England Deaconess Hospital the quantities of insulin given on the first, second and third days are shown in the following table.

INSULIN IN 63 CASES OF DIABETIC COMA  
TREATED AT THE NEW ENGLAND  
DEACONESS HOSPITAL

Day of Coma	Cases Corresponding to Units Administered						0 units
	497 units	300-400 units	200-300 units	100-200 units	50-100 units	10-50 units	
First	1	2	14	25	17	4	0
Second	0	0	11	9	18	29	5
Third	0	0	0	5	20	32	0

*Site of Injection. Insulin Maps.* The site of injection of insulin is not an indifferent matter. If it is injected into the upper layers of the skin it acts more powerfully, but the pain and so-called "insulin burns" make this undesirable. Conversely I have tried giving it before the evening meal deeply into the lower fat layer, where the blood supply is slight, to delay absorption, but only with indifferent success. It is best injected subcutaneously, distributing the solution so as not to injure any one special area of skin. But most important of all is to vary the site of injection. For this purpose my nurses have made insulin maps especially for the little children. By this I mean the body forms are printed with dots for each dose of insulin during the month so that no two doses will be in the same place, and thus injury to the skin is avoided. All my diabetics learn to give themselves insulin on the right side of the body in the morning and the left side at night, and in four longitudinal and parallel lines down the extremities. The Sunday dose begins at the upper end of the line and the Saturday dose is at the lower end. Never give insulin many times in one place. Necrosis of tissue

occurs, an abscess may form, failure of absorption is bound to ensue, the dosage in consequence is increased and if by chance the same quantity is given in another part of the body a reaction follows.

*The Diabetics' Changing Moods.* The period of the day in which the greatest difficulty is encountered in keeping the diabetic sugar free is after breakfast. At this time the blood sugar reaches its highest level, only to fall to its lowest level, as Jonas has shown, a few hours subsequently in the late forenoon. To keep the urine sugar free after breakfast one adopts various expedients. 1. The largest dose of insulin for the day should be the morning dose. 2. It should be given at a greater interval before breakfast than before the other meals, namely 45 or 60 minutes instead of 30 or 20 minutes. 3. The carbohydrate at the morning meal should be low and frequently less than one third that for the entire day even though insulin is not used before the noon meal. 4. Exercise finally before breakfast may be required, because of its hypoglycemic power. This peculiar behavior of the diabetic becomes understandable if one bears in mind his changing moods. These formerly took place in the course of months or weeks, but under the influence of insulin they transpire in a day.

A diabetic is mild or severe largely as the diet and the doctor make him. Ten years ago Case No. 983, a fat woman of 55 years, entered the Deaconess Hospital voiding one half a pound of sugar a day with a moderately severe di-acetic acid reaction which with our sad but well meaning methods of treatment soon became worse and in consequence the ammonia in the urine rose to 4.6 grams. The blood sugar was 0.39 per cent., the  $\text{CO}_2$  in the alveolar air was 24 and the respiratory quotient 0.73, or below, where it remained for several days. By Shaffer's methods of calculation her deficiency in carbohydrate metabolized was as high as 76 grams. What evidence could be lacking to prove Mrs. B. a severe diabetic? Yet even then I had faith in diabetes and believed her diabetes mild. Eighteen days later she was discharged sugar free with a tolerance for 52 grams carbohydrate. Nine years later she came to Boston at my instigation to prove to my friend Professor Petró that a blood sugar of 0.39 per cent. is not conclusive proof of a severe diabetic. In November, 1923, she returned again to secure insulin and still remains in the living lists.



Mrs. B. took days, even weeks, to turn from a severe into a moderate and ultimately a mild diabetic, a feat which many insulin patients perform regularly every twenty-four hours. And this is the way I explain it; if I am wrong correct my working hypothesis which I shall soon put to the test.

Glycogen in the liver as well as in the muscles, protects the healthy and the diabetic as well. Exhaust this carbohydrate store and acidosis supervenes. This we note in the normal and the diabetic too, and when acidosis appears in a diabetic we know that the patient, whether severe, intrinsically or not, has become so at the moment for all intents and purposes, because the glycogen funds in his liver bank are overdrawn. This is usually the result of man's improper treatment. Along with the fall in glycogen metabolized, and as evidence of its lack in the body, the respiratory quotient falls too.

Now this is just what happens to the insulin diabetic, if his diabetes was originally severe. During the day with the help of insulin he has utilized the carbohydrate in his diet and glycogen is stored in his liver, but gradually during the night the effect of his insulin wears off, his meager store of glycogen, which he has no means of replacing is exhausted and the diabetic, who went to bed mild, wakes up severe. And he must be treated as a severe diabetic would be treated for the early hours of the day. This means undernutrition for breakfast, preceded by the day's maximum dose of insulin. Gradually the engine warms up, chokes and sputters and sometimes stalls, but finally it gets going again and in time my old Ford, or rather my severe diabetic, is running smoothly and is again the mild diabetic that he was the preceding evening when I tucked him in bed, all because he has that abundant glycogen in his liver.

To prevent this metamorphosis from a mild into a severe diabetic during the night, intuitively, Case No. 2784, Lloyd H. wrote me that he had hit upon the plan of taking his supper at 8 P. M. and his breakfast at 7. I suspect that the diabetics may come to this. An early breakfast, as small in amount as the European, and a dinner as late as the European. In this way the changing moods of the diabetic may be avoided. In this way a mild diabetic may be kept from slipping back into the class of a severe diabetic.

Incidentally this is my explanation of the success of the high carbohydrate diet in certain cases and of this I will now speak.

*High Carbohydrate Diets.* A high carbohydrate diet has been recommended in the treatment of diabetes, and recently strenuously advocated and reasons given for its success by Dr. Sansum. With such a diet I have had some experience. In 1920 by accident and this time through the intuition of a nurse, I gave my first high carbohydrate diet to a child then 5.8 years old, George B., Case No. 2007, the little boy who appeared with the dog in his arms in one of my publications. The 4.4 per cent. sugar in his urine quickly disappeared at the beginning of his treatment with undernutrition, and the carbohydrate was gradually increased, indeed as Allen once suggested, chiefly in the form of vegetables and fruit and almost to the exclusion of protein and fat. At length he attained a tolerance of 140 grams, and today still takes this amount, but supported with insulin, which has gradually been increased during the last three years until now, May 1927, he received 42 units divided into four doses as follows, 21, 6, 10, 5. The night dose is given while he is asleep. He is the picture of health and happiness, and at 11 years of age last summer sailed his boat "The Red" to victory in Hingham Harbor.

Subsequently and at about the same time, and all these cases were before insulin, I used this plan of treatment with a student, Case No. 2052, having 6.2 per cent. sugar and with success; then with a pastor, Case No. 2095, who showed 10 per cent. of sugar; next with a poulterer, Case No. 2343, also coming with a high per cent. of sugar, 7.5 per cent. and finally with a plumber, Case 2140. Of these 5 patients all are alive today, June 1927, save the plumber. All subsequently lived to take insulin save the plumber, who instead took doughnuts, nine doughnuts at one breakfast, and not many months after died of tuberculosis. The four living patients today who have had diabetes for approximately seven years each are taking respectively about 42, 50, 20, 20 units and the carbohydrate varies from about 141 grams to 115 grams. They all appear in good health. I suspect that it may be possible with selected cases, with treatment beginning soon after onset, to build up a high tolerance for carbohydrate with a low amount of insulin. Whether one can do this

also by giving a very large quantity of carbohydrate, for a diabetic, together with a large quantity of insulin except in selected cases is a question. For this reason the ultimate condition of Dr. Sansum's patients will be watched with the greatest interest. It is only fair to state again that my patients were comparatively young at onset, 5.6 years, 17.5 years, 27 years, 20 years, 20 years, that a diabetic heredity existed in 2, that they came early for treatment and had not been injured by a low carbohydrate high fat diet.

The dosage of insulin is a most varied factor. The first few units do the most good all will agree, and as the units increase in number the increment of return falls. This has not been the case in certain of Sansum's cases. It is so difficult to decide what a unit will do. Time, diet, and exercise are great factors. Colonel P., Case No. 632, with 20 units today takes eight times the carbohydrate which he was able to tolerate with 20 units five years ago, his carbohydrate tolerance having risen from 15 to 120 grams. How can one reckon what a unit of insulin will do? One boy, Case No. 2419, who survived the Allen regime, has not increased his insulin for several years, but if the nurse who supervises his diet believes that the exercise which this young man, now grown from a boy, will take during the day will be extreme, she decreases the insulin dose accordingly. Many of the insulin patients who have grown unduly fat have been obliged to increase their insulin to keep sugar free, whereas Case No. 1895, with onset of diabetes 7 years ago at the age of 14 years and 10 months deliberately lost 10 pounds in the summer of 1926 and not only decreased his insulin from 40 to 30 units, but simultaneously raised his carbohydrate from 90 to 159 grams. The dose of insulin, therefore, is most variable, not only in different patients, but in the same patient. Exercise and diet are the factors which largely control it.

As I see the situation Dr. Sansum and I agree in our antipathy to fat. I hope by old fashioned methods and rather small doses of insulin with the help of the element of time to build up a tolerance for carbohydrate. Dr. Sansum is bolder and hopes with extremely large doses of insulin to allow his diabetics to take much carbohydrate from the start and become milder. The evolution of each method depends upon implicit obedience on the part of the patient—a human factor—and

any one seeing patients treated by either plan should not forget this aspect of the case before drawing conclusions.

## THE HUMAN SPINE

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The human spinal column is the central axis of the skeleton and is situated in the median line at the posterior aspect of the trunk. It is normally composed of thirty-three segments or vertebrae, twenty-four of which are true or movable and nine false or fixed vertebrae. Of the true vertebrae, the first seven are called cervical, the succeeding twelve, thoracic or dorsal, and the remaining five lumbar. Of the false vertebrae, the first five form one mass, called the sacrum, and at the terminal part of the column are three to five fused segments forming the coccyx.

The vertebral column functions as a pillar of support for the trunk and a case for protection of the spinal cord and nerve roots and meninges. Cephalad it supports the skull; laterally it gives attachments to the ribs, through which in part it receives the weight of the upper limbs and caudad it is supported by the hipbones, by which the weight of the trunk is transmitted to the lower limbs. The structure of the whole column accords with the necessities of these functions, and thus the vertebrae of which it is composed show their individual agreement with the general arrangement of the whole: they are modified in details according to their position, but they are all built on the same general principle.

This principle may be illustrated briefly, on a vertebra taken from the center of the column and used as an illustration of the positions of the chief parts of a "typical" vertebra. In front a strong *body* carries and transmits weight. It is the more fixed part of the column and to its dorsal aspect is attached the spinal cord. The attachment of the spinal cord to the more stable bodies prevents overstretching of the cord in flexion of the column. The *neural* arch behind the bodies covers in the spinal cord: in conformity with this we find the strong pads of intervertebral discs placed between the bodies of contiguous vertebrae, whereas, the arches are connected by ligaments and tend to overlap one another.



The arch is relatively more movable than the bodies. In the articulated column the successive arches and ligaments, with the dorsal aspect of the bodies, enclose a spinal canal for the cord and meninges (pachy and leptomeninges), and the portion of the canal that is enclosed in the neural arch of each separate segment is the spinal foramen of that vertebra. The neural arch has spinous, articular, transverse processes, as well as laminae and pedicles. No details of these structures are necessary in this paper.

The length of the spinal column varies in different skeletons, but on an average it measures about 70 cm. in the male and about 2.5 cm. less in the female. It constitutes about 45 per cent. of the entire body length. To the entire length of the column the cervical region contributes about one-sixth, the thoracic about one-third, the lumbar about one-fourth, and the sacro-coccygeal portion the remaining one-sixth. About one-fourth of the length of the pre-sacral spine is made up of the intervertebral discs.

The length of the movable or free vertebral column (cervical, thoracic and lumbar) at the end of the second fetal month is about 2 cm.; in the third fetal month 4 cm.; at the end of the fourth 8 cm.; and at the end of ninth fetal month 20 cm. in length (Fig. 1). Between birth and maturity the movable vertebral column increases in length about 2.5 times; two-thirds of this growth is reached before puberty.

The ratio of the various segments of the vertebral column shifts with the chronologic and anatomic age of the individual. The cervical and sacral regions form the greater part of the column during the second and third fetal months. At birth the cervical part forms approximately one-fourth, the thoracic part one-half and the lumbar one-fourth of the movable vertebral column. By the third year the adult ratio is reached and this has been given above.

The striking characteristic of the complete articulated column when viewed as a whole is the presence of "curves." There are two sets of curves; the primary or accommodation curves and the secondary or compensation curves. There are four of these in the sagittal plane or profile view, convex forward in the cervical and lumbar regions, concave forward or ventrad in the dorsal and sacral zones. The dorsal curve is primary and may be looked on as the persisting

curve of the embryonic axis. The sacral curve is also primary. These two primary curves are for the accommodation of the thoracic and pelvic viscera. The thoracic curve extends from the second to the twelfth dorsal vertebra, and the sacral curve coincides with the sacrum and the coccyx (Figs. 2 and 5).

The secondary curves of compensation are found in the cervical and lumbar regions and have their convexities directed ventrad. They are curves that compensate for the assumption of the upright posture and are developed due to changes in the intervertebral discs. The cervical curve appears with the development of ventral flexion of the head on the chest at about the third post-natal month of the infant and with the sitting posture at about the sixth post-natal month. The curve is never consolidated or fixed in the vertebral column. It is present in the upright but obliterated with the horizontal posture (Fig. 2).

The lumbar curve between the twelfth dorsal vertebra and promontory of the sacrum appears between the ninth and twelfth post-natal month when the child begins to stand and attempts to walk. This curve becomes consolidated in adult life (Figs. 2 and 6).

The most anterior part of the cervical convexity is the front of the body of the fourth cervical vertebra, and the curve ends below about the second dorsal: the body of the seventh or eighth dorsal usually forms the point of greatest posterior projection in the dorsal curve, which ends below between the twelfth dorsal and first lumbar vertebrae (Fig. 2).

The fifth curve is lateral and is a secondary, compensation curve. It is in most cases directed to the right and is found in the upper thoracic or dorsal region. Its convexity, usually to the right, is probably associated with the greater use of the right hand. It is modified by race and occupation. The common finding in the ventro-dorsal view therefore is a physiologic right lateral scoliosis (Figs. 3 and 4).

The primary curves of accommodation have associated direct changes in the bodies of the dorsal and sacral regions, whereas, the secondary or compensation curves have associated changes particularly in the discs. At about the third week of intra-uterine life the first primary curve appears with the snail-like coiling of the entire

embryo. During this time the vertebral column has a pronounced ventral flexion. The uncoiling of the embryo occurs between the third and

free column forms a single gentle curve with a ventral concavity extending from the first cervical to the last lumbar vertebra, while the sacrum



Fig. 1

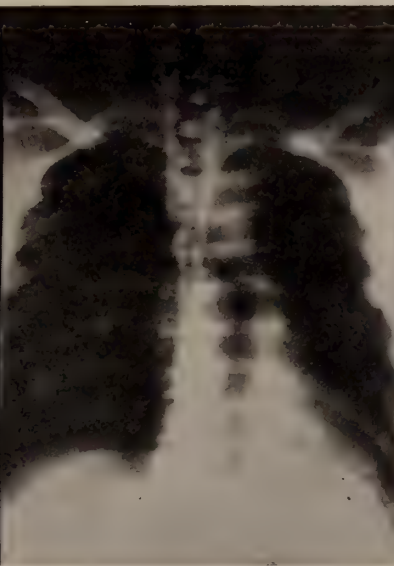


Fig. 3

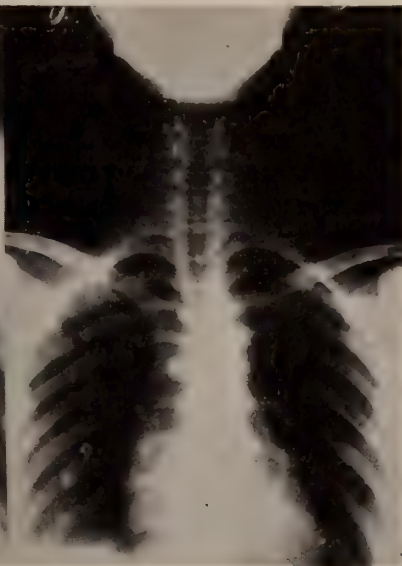


Fig. 4

sixth week of intra-uterine life. The movable or free portion of the vertebral column gradually

Fig. 1. The lateral aspect of the spinal column with uniform ventral concavity. There is greater ossification in the mid-thoracic region than in the cervical or lumbar and the arches have a greater extent of ossification in the cervical region than in the thoracic or lumbar regions.

Fig. 3. Ventral aspect of the thoracic spine with a slight right lateral physiological scoliosis in the region of the fifth, sixth, seventh and eighth dorsal vertebrae. At the level of the fourth vertebrae the apex of the ventral pyramid of the bodies extends caudad to the upper border of the sacrum and cephalad to the upper border of the body of the first dorsal vertebrae. These are the second and the third pyramids. The first extends from the body of the first cervical to the body of the first dorsal vertebrae; the fourth pyramid extends from the base of the sacrum to the tip of the coccyx.

Fig. 4. Ventral aspect of the bodies of the spine with the left lateral scoliosis (physiological) from the third to the eighth vertebrae. The first pyramid in the cervical region has its apex cephalad and its base caudad and extends from the body of the first cervical to the upper border of the body of the first dorsal vertebrae.

and coccyx is directed somewhat dorsad (Fig. 1).

In the female the sacrum is turned dorsad to a greater extent than in the male. This causes a more prominent lumbo-sacral angle, but it is modified by the lumbar curve becoming more pronounced; thus in women the fourth lumbar is usually more prominent than in men. If an anomalous sixth lumbar vertebra is present there is consequently a still greater tendency to spondylolithesis, a forward gliding of the caudal

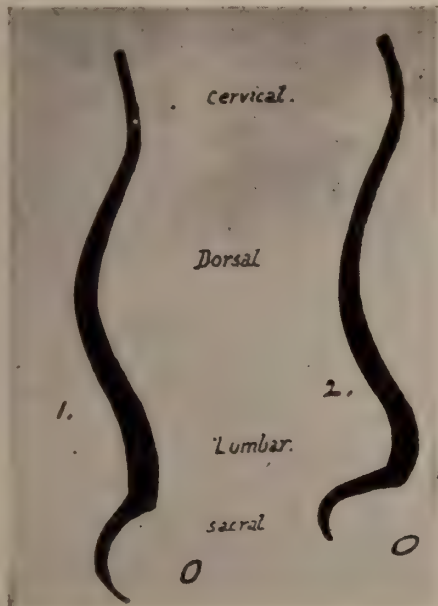


Fig. 2. Diagram after Frazier of the lateral aspects of the spinal column of the male (left) and the female (right) with the cervical and lumbar ventral convex curves and the thoracic and sacral ventral concave curves.

becomes straighter while the sacral portion first becomes straighter and later acquires a second ventral curve. In the newborn child the true or



surface of the fifth lumbar over the cephalic aspect of the first sacral vertebra.

The presence of the primary and secondary curves in the column or vertebral pillar above the sacrum adds to its elasticity while the number of curves gives it a greater resistance to weight than would be afforded by a single curve; weight is transmitted to the top of the sacrum and from thence to the innominate bones, so that the sacral curve is merely an adaptation to the contents of the pelvis not concerned in weight transmission, and differs in the sexes.

The aortic impression consists of a variable flattening of the left side of the dorsal vertebrae from the fourth to the tenth segment.

From the ventral aspect the bodies of the vertebral column present a series of pyramids due to the successive increase and decrease in the size of the bodies. They become wider from the axis to the first dorsal vertebra, then decrease to the fourth dorsal. The apex of the first pyramid is directed upward, of the second its apex is directed downward (Fig. 4). Their bases are in opposition. The third pyramid extends from the fourth thoracic to the fifth lumbar vertebra with its base caudad, (Fig. 3). The fourth pyramid includes the sacrum and coccyx with the base cephalad and the apex caudad, (Figs. 7, 8, 9, 10 and 11).

In the lateral view, the intervertebral foramina appear oval in shape. These foramina increase in size progressively from cephalocaudad being smallest in the cervical and largest in diameter in the lumbar region. The spinous processes of the second and seventh cervical, first thoracic and all the lumbar vertebrae are most prominent.

From the dorsal aspect the line of the spines have frequent irregularities without any deviation in the line of the weight bearing bodies. On each side of the line of the spines the vertebral groove runs down the length of the column, floored by the laminae and backs of the articular and transverse processes: it is occupied by the deep and superficial layers of the post-vertebral muscles.

Observe the spinous and transverse processes in the roentgenograms, (Figs. 7, 8, 9, 10 and 11). The former project in the midline, and the latter as two lateral rows. The width of the transverse processes varies. They are more or less

regular in the cervical region, but great in the first and last members of the series; it decreases from above down in the dorsal vertebrae, and increases again in the lumbar to the third or fourth, (Figs. 4, 7, 8, 9, 10 and 11).

#### TOPOGRAPHIC ANATOMY

There are certain vertebrae which are of special value to the physician, since they stand as landmarks to guide him to the seat of other part of the body. Thus, the third cervical vertebra corresponds to the following parts: 1. the opening of the larynx, 2. the bifurcation of the carotid artery, 3. the point of origin of both the external and internal carotid arteries, 4. the situation of the superior cervical ganglion of the sympathetic nerve, (Fig. 4). The fifth cervical vertebra is a guide to the following parts: 1. the lower opening of the larynx, 2. the beginning of the trachea, 3. the lower end of the pharynx, 4. the upper opening of the esophagus, 5. the middle cervical ganglion of the sympathetic nerve, (Fig. 4.) Finally the second lumbar vertebra corresponds to the following parts: 1. the termination of the duodenum, 2. the commencement of the jejunum, 3. the lower border of the pancreas, 4. the upper root of the mesentery, 5. the point of origin of the superior mesenteric artery, 6. the commencement of the thoracic duct, 7. the opening of the ductus communis choledochus into the intestine, 8. the commencement of the vena porta, 9. the termination of the spinal cord, 10. the point of origin of the cauda equina, 11. the attachment of the crura of the diaphragm; and 12. the situation of the receptaculum chyli, (Figs. 12, 13, 14 and 15).

In addition to these three vertebrae which are of special value as guides to more than one part of the body, may be mentioned the seventh cervical whose long spine is a guide to the level of the apices of the lung in the male, since in the female it extends higher up; the third dorsal at whose level the aorta reaches the spinal column, the trachea bifurcates and the apex of the lower lobe of the lung is found, (Fig. 16); the eighth dorsal which indicates the lower level of the heart and that of the central tendon of the diaphragm: the ninth dorsal at which level the upper edge of the spleen is found in health, and where also the esophagus and vena cava pass through the diaphragm: the tenth dorsal, which corresponds to the lower edge of the lung,

the spot where the liver comes to the surface posteriorly, and the situation of the cardiac orifice of the stomach; the eleventh dorsal guiding the student to the normal situation of the lower border of the spleen, and to the upper part of

kidney; and finally, the fourth lumbar which marks the point of bifurcation of the abdominal aorta into the two common iliac arteries and which lies on the level with the highest part of the ilium, (Figs. 14 and 15).



Fig. 5



Fig. 6



Fig. 7

the kidney; the twelfth dorsal which marks the lower limit of the pleura, the passage of the aorta through the diaphragm, and the situation

Fig. 5. Lateral aspect of the dorsal region of the spine with the ventral concavity directed to the right in the figure.

Fig. 6. Lateral aspect of the lumbar spine with the ventral convexity directed to the right in the figure.

Fig. 7. Ventral aspect of the lumbar and lower dorsal spine, with the bodies widening from above downward. This is the caudal three-fourths of the third ventral pyramid of the bodies, whose base is caudad and apex cephalad at the level of the fourth thoracic body.

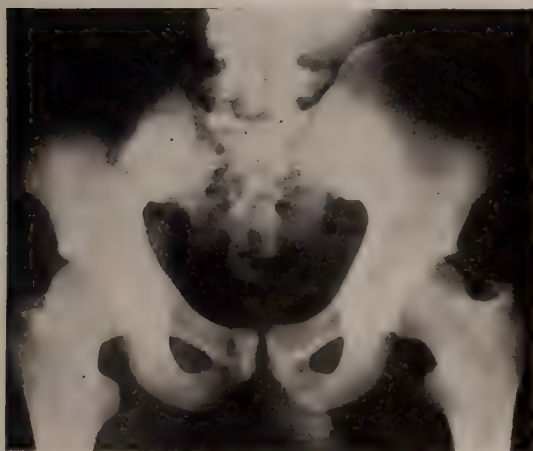


Fig. 8. Ventral aspect of the sacrum, the fourth ventral pyramid of the spine, whose base is cephalad and apex caudad at the level of the coccyx.

of the pyloric end of the stomach; the first lumbar where the renal arteries are given off, and where the pelvis of the kidney may be found; the third lumbar which corresponds to the level of the umbilicus, and the lower border of the

It may be of value to the physician in examining the chest or endeavoring to locate the exact situation of any particular point upon the chest, to remember that the spine of the third dorsal vertebra is on the same level as the commencement of the spine of the scapula; that the spine of the seventh dorsal vertebra lies on a level with the inferior angle of that bone; and, finally, that the spine of the last dorsal vertebra is on the level with the head of the last rib, which may be used as a guide to certain surgical operations, upon some of the abdominal viscera.

Between the different vertebrae are placed foramina through which the spinal nerves escape from the spinal canal to reach the parts which each is destined to supply. It is often useful to know the vertebrae opposite to which the



nerves of any special region arise from the spinal cord, since the point of origin does not always correspond to the foramina of escape. The following guides may be furnished by the vertebrae, to locate the seat of lesions of the spinal cord, which are affecting any special nerves or set of nerves.

The interval between the occiput (inion) and the sixth cervical spine marks the limits of origin of the eight cervical nerves; that between the sixth cervical and the fourth dorsal spine, marks the origin of the first six dorsal nerves; between the eleventh and twelfth dorsal spines the five lumbar nerves arise as the upper part of the cauda equina; while the origin of the five sacral

which the head shall rest, rendering the danger of severe jarring of the brain a minimum; 3. the curves are so arranged as to favor the lodgment of organs, since the cavity of the chest is greatly enlarged thereby, and the weight of these organs is still kept within the line of the center of gravity, a fact to be considered in the arrangement of muscles, as less power is required to preserve the proper balance; 4. the curves are so gradual as to prevent the possibility of compression of the spinal cord, which might occur were there any abrupt angles to the canal; 5. the curve of the cervical and dorsal regions adds greatly to the beauty of outline of the body,



Fig. 9



Fig. 10



Fig. 11

nerves corresponds to the single vertebra, the twelfth dorsal spine, (Figs. 4, 13 and 14). It should be remembered that the spines of the vertebrae are not always in a precisely straight line but that in persons possessing the greatest strength, an occasional deviation of single vertebrae either to the right or the left may exist. It is by knowing these natural defects that we can guard ourselves against error in diagnosis.

#### PHYSIOLOGY OF THE SPINE

The curves of the vertebral column serve the following purposes: 1. they contribute to the wonderful strength of the spine sixteen times that of a straight one, since its curves are alternating; 2. they convert the spine into an elastic structure and thus afford a springy pillar upon

Fig. 9. Ventral aspect of the lumbar spine, with the mid-line of the spinous processes and laterad the transverse processes. The transverse processes of the fourth lumbar vertebra are directed cephalo-laterad. Note the line of the articulation of the articular processes.

Fig. 10. Ventral aspect of the lumbar and dorsal regions of the spine in which the ventro-dorsal line of articulation of the articular processes are clearly seen. There is marked variation in the curves and widths of the ribs, for which no constitutional cause can be found.

Fig. 11. Ventral aspect of the lumbar region of the spine, in which there is a slight deviation of the spinous processes, but no deviation of the bodies. The lateral line of the psoas muscle is clearly seen cutting the transverse processes of the first lumbar and at the tip of the second lumbar vertebrae.

while the cervical curve facilitates the movements of the neck, (Fig. 2).

The curves of the vertebral column are due, in great measure, to the variations in thickness

of the intervertebral fibro-cartilages, but partly also to the relative thickness of the bodies of the vertebrae of the different regions, and to the tension exerted by the ligamenta sub-flava, which connect the laminae of the different vertebrae together.

The spinal column is capable of movement in one of four directions, viz., flexion, extension, lateral movement and torsion. The first two are freest in the neck, least free in the dorsal region and less free in the loins than in the neck. This is largely due to the fact that the spines of the dorsal vertebrae overlap each other, particularly from the fourth to the eighth and that the articular processes of the dorsal vertebrae are nearly perpendicular, so that movement is prevented; while, in the cervical region, the articular processes are oblique, the intervertebral discs thick, and the spinous processes of the third, fourth and fifth are purposely made short and horizontal. The lumbar vertebrae have also thick intervertebral discs, which allow of movement between their spinous processes; and the articular processes are so placed as to allow of a limited movement. Flexion and extension of the spine are freest between the third and sixth cervical vertebrae, between the eleventh dorsal and second lumbar, and again between the last lumbar vertebra and the sacrum. In cases of tetanus, or in those feats of the acrobat where the body is made to rest upon the head and heels alone, this point is admirably shown. The lateral movements of the spine are very free in the neck, so as to allow of an easy carriage of the head, and in the loins so as to permit of movement of the trunk. The movement of rotation of the spine is confined almost exclusively to the lumbar region, and it is this power of movement that enables the head to be rotated beyond the ability of movement of the atlas upon the axis, through a participation of the trunk. Holden suggests an admirable way to demonstrate this point: "Sit upright, with your head and shoulders well applied to the back of a chair; the head and neck can be rotated to the extent of 70°. Lean forward, so as to let the lumbar vertebra come into play; you can then turn your head and neck 30° more."

The intervertebral discs are soft and of a pulpy consistence in the central portion, but firm at the edges and they thus tend to form a ball and

socket joint which permits of a certain amount of movement in every direction between the vertebrae which they separate. By the weight of the body they are compressed, so that at night the height of an individual is often diminished some fraction of an inch from the measurement taken after a night's repose. A habit of leaning toward one side may make a permanent deformity by destroying the elasticity of these cartilages. Thus, a distortion of the spine may not always indicate disease.

Upon each side of the spines of the vertebrae may be perceived a deep groove for the strong muscles of the back. If we look at the spinal column from the front, we can perceive that the transverse processes of the atlas are very long, so that the muscles which rotate the head can gain additional leverage. An enlargement of the column can be detected at the lower part of the cervical region, so as to form an expanded base for the neck, and a diminution in the width of the column can be detected in the dorsal region in order to afford more room for the lungs. A slight lateral curvature in the dorsal region may often be perceived, which is attributed by some authors to the excessive use of the right arm, since its concavity is usually toward the left side. This point should be remembered as a frequent and natural deformity when diagnosing a lateral curvature as the result of disease.

Along the entire length of the spinal column on its posterior aspect the spinous processes form a prominent bony ridge, which may be felt through the skin of the back even in the fattest people, and which is occasionally prominent during life. It will be noticed that the spine cannot be felt in the cervical as distinctly as in the dorsal and lumbar regions, for the following reasons: 1. on account of the curve, 2. on account of the attachment of an elastic ligament (the ligamentum nuchae) which extends from the head to the last cervical vertebrae and assists the muscles in supporting the head at a right angle to the spine, 3. from the fact that the spines of the third, fourth and fifth cervical vertebrae are made shorter than the rest so as to admit of free extension of the neck, 4. on account of the muscles which tend to render the long spine of the axis less prominent than it would otherwise be. In a muscular subject, the spines of the vertebrae of the dorsal and lumbar



regions, instead of being prominent as they are in the skeleton lie in a median depression or groove, which extends the entire length of the back and is caused by the prominence of the

the spinal cord has terminated in the cauda equina. The vertebrae so overlap each other, posteriorly and at the sides, that it would be extremely difficult for any cutting instrument to



Fig. 12



Fig. 14

Fig. 15

erector spinae muscles upon either side of the spines.

The spinal canal which is inclosed by the ver-

Fig. 12. The duodenal cap is seen between the bodies of the first and second lumbar vertebrae. There are wide limits of variation in the relationship of the duodenal cap found by Moody.

Fig. 14. The ventral aspect of the lumbar region with relationship of the ureto-pelvic junction of the kidney to the lower border of the body of the second lumbar vertebra. This has considerable limits of variation.

Fig. 15. Ventral aspect of the lumbar region with the relationship of the ureter to the transverse processes of the lumbar vertebrae and the sacro-iliac regions.



Fig. 13. Gall bladder (Graham Technique) related to the lateral aspects of the bodies of the first and second lumbar vertebra. The position of the gall bladder has wide limits of variation.

tebrae extends throughout the entire length of the spinal column and contains the spinal cord, and the lumbar, sacral and coccygeal nerves, after

injure the spinal cord, except between the occiput and the arch of the atlas, where animals are usually "pithed," and in the lumbar region where a cutting instrument might possibly injure the lumbar or sacral nerves. The spinal canal is larger in the neck and the lumbar region than in the dorsal, which fact is explained on two grounds: first, because there are two enlargements present on the spinal cord (where the large nerves of the upper and lower extremities arise), which demand increased space, and second, because the dorsal region does not admit of much motion and therefore the spinal cord requires less room to insure its safety from pressure than in the neck or lumbar region, where the movements of the spinal column are more extensive.

The vertebrae are so interlocked, by their spinous and articular processes, as to render the danger of dislocation of any bone extremely

slight; in fact, such an accident would be impossible in the dorsal and lumbar regions without a fracture of the processes having first occurred: but in the cervical region, such cases have been reported and specimens of it are shown in some of the large collections of osteological curiosities. Sudden and forcible rotation of the neck may be followed by such dislocation.

The excessive length of the transverse processes of the atlas affords one of the many examples of the provision to increase the leverage of muscles and thus to add to their power, since the inferior oblique muscles of the neck are thus enabled to rotate the head with greater ease than if the transverse processes were of the same length as those of the other cervical vertebrae.

The transverse ligament, which serves to retain the odontoid process of the axis in close relation to the atlas, is an important structure, since it protects the medulla oblongata from the pressure which would otherwise be exerted upon it by that process of bone when the head is bent forward; hence, the fatal consequence of rupture of that ligament when hanging is scientifically performed upon a criminal. In spite of the strength of this ligament and the deep groove in the odontoid process in which it fits, it occasionally slips out of its place with fatal results to the patient. Such displacement is more liable to occur in the child than in the adult, since the ligaments are weak and liable to be more relaxed. The odontoid process of the axis is much shorter in the child than in the adult and thus more readily allows the transverse ligament to slip over its apex.

The body, being the weight-bearing part of the vertebra, is built to sustain this load. Elasticity is attained in the bodies of the vertebral column by the cancellous composition of the body. The strongest lamellae are arranged cephalo-caudad in the direction of pressure from above downwards. These stronger vertical bars of cancellous bone are bound together by weaker horizontal lamellae. The vertical fibers of bone are curved with their concavities directed toward the center of the bone; the horizontal ones are slightly curved parallel with the upper and lower surfaces, and have their convexities toward the center of the bone. The vertical set is more defined than the horizontal set. The cancellous

tissue of the body is covered with a thin layer of compact bone, (Fig. 17).

The number of vertebrae permits a considerable amount of movement in the complete column without calling for more than a very small amount between the individual segments, thus avoiding the weakening that would result if the segments were fewer and longer. The mechanical stability of the column under all normal movements is assured by having the axis of rotation pass through the bodies and not through the arches, so that the bodies are not displaced from one another. To this end the discs join the bodies together and the thicker the disc the greater the amount of movement between the bodies. Thus we find that the discs are thickest in the lumbar and cervical regions, where movement is freest, and shallow in the dorsal series, where naturally the amount of motion is much restricted. In addition to the intervertebral discs we find the bodies attached by the anterior and posterior common ligaments. The whole series of bodies form a flexible column with the discs ensheathed in a white fibrous covering.

It is evident that a forward bending of the column will lead to a separation between the corresponding laminae and spines, and thus we find that the laminae are connected with those above and below by interlaminar ligaments (ligamenta subflava) mostly pure elastic tissue. The separation of the transverse processes in lateral flexion of the column is met by the intertransverse muscles and considerable white fibrous tissue. Lateral flexion is more limited than ventral flexion.

We may sum up the movements between the parts of the different vertebrae as follows: the bodies being in and around the center of motion or gravity, move least, and the various processes move more, in proportion as they are as far away from the body in the plane of any specific movement. The cord with its meninges, lies deep to the neural arch. This arch moves away from or to its neighbors in flexion or extension and thus the cord obtains the greatest possible amount of freedom from action by having no attachments to the arches. The cord is held to the dorsal aspect of the corporeal column by the adhesion of the pachymeninges to the dorsal common ligament and by the attachment of its



nerves to the pedicles and discs through their sheaths of duramater.

#### EMBRYOLOGY OF THE SPINE

The detailed examination of the roentgenograph of the spine at different age is necessary before the student is able to pass a reliable opinion. He should note changes in size, shape, po-

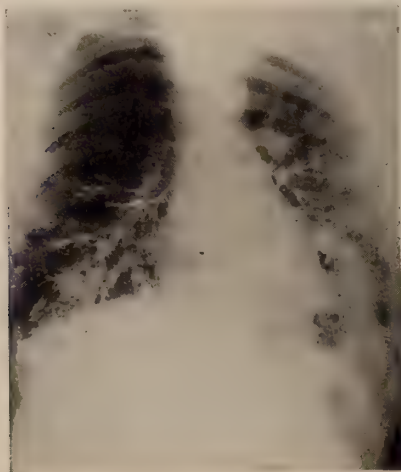


Fig. 16. Dorso-ventral aspect of the thoracic region and the pulmonary tree (Lipiodal) showing the bifurcation of the trachea at the level of the sixth dorsal vertebra. This topographical relationship varies normally.

sition, relations and density of the segments of the vertebral column and should keep in mind the sequence of phenomena that takes place in endochondral ossification of the vertebral pillar of support and laminar protection. The general outline of the bones should be compared with a known standard. Irregularities, lipping, exostoses and radiability of the periosteum must be considered. The reliability of a roentgenologist's report of objective observations (not clinical diagnoses) rests upon keen observation and wide clinical experience. A normal or standard must be set as to the normal densities of the bones and surrounding parts of the vertebral column at different anatomic ages. Then and then only, is he able to report objectively with assurance and certitude in cases of nutritional disturbances whether or not there has been an increase or decrease of surface, outline or density of bone in the various vertebrae.

Changes in the epiphyseal lines due to infection, trauma or disturbed nutrition depend upon a knowledge of the normal and the degree of variation from the normal depends upon the

criterion or standard that has been set by observational study. This variable standard, which changes with progressive development of the anatomic age, definitely in the mind of the roentgenologist, makes the interpretation of a slight degree of irregularity from disease possible. It should be noted whether or not the epiphyses of the various segments have appeared, their density, condition and their size.

According to Rotch (1910) we must admit that we are studying histology and pathology in its most important aspect, that is, under living conditions, and that a knowledge of these conditions is exceedingly valuable not only for diagnosis but for treatment. We must remember that although the knowledge we obtain from the microscope is of very great value, yet at times macroscopic are as useful as microscopic pictures. A magnifying glass is of great use in studying reproductions of roentgenography of the spine. This glass is of great use in the study

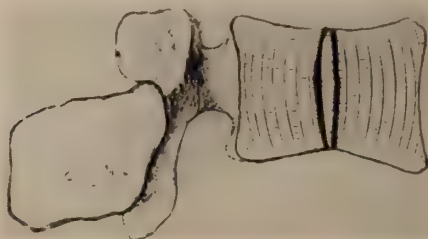


Fig. 17. Diagram of the pressure lines after Frazer in the body of a vertebra of the movable spine. The compression lines extend cephalo-caudad and have their concavities directed toward each other in the center of the body. The tension lines running at right angles to the former as directed ventro-dorsad and have their convexities directed toward each other at the center of the body of the vertebra.

of the chronologic and anatomic changes of the developing spine.

The vertebrae are ossified by the endochondral method. The cartilaginous structure has a centrum and two separate halves of a neural arch, with the varying processes represented at first only by the scleroblastemal skeleton, into which the chondrifying process takes place. Ossification begins during the seventh week by the formation of three primary centers, one for the centrum of body and one for each half of the neural arch. The center for the body is either bilobed or double in origin, fusing rapidly into one bilobed center of ossification.

In the radiograph the ossifying process is not

detected prior to the ninth week. At this time the centers for the arches of the cervical vertebrae appear, progressively, in order from above downward. While each part passes through its own cycle of changes these changes as a whole tend to follow the law of *developmental direction* for it is generally found that development, including growth and differentiation in the long axis of the body, appears first in the cephalic aspect of the body and progresses caudad and similarly development in the transverse plane begins in the mid-dorsal region and progresses lateral and ventrad, while in the extremities it extends proximodistad.

The primary centers of ossification appear, therefore, at different times in different regions: thus those for the *arches* appear first in the cervical region, *axis* and succeed one another from above downwards while the *centrum* ossifies earliest in the mid-dorsal regions and extends thence in both directions cephalad and caudad. The ossification of the arches is associated with the determinant induced changes caused by the progressive development of the musculature from above downwards: the ossification of the bodies of the vertebrae with the first appearance of an adequate optimum location of pressure.

The cervical *arches*, therefore, ossify before the *bodies*, while in the mid and lower dorsal and lumbar region the *bodies* ossify before their corresponding *arches*, (Fig. 1). The rapidity of the extension of ossification has individual variations but by the end of the third month there are primary centers for all the true or movable vertebrae, (cervical, dorsal and lumbar).

At birth the three primary bone centers are distinct, but joined by cartilage. The arches join dorsally during the first year, fusion commences in the lumbar region. A few years later the arches join the bodies; this process commences in the dorsal region.

After puberty secondary centers appear and fuse with the primary bone by the age of twenty-one. These appear in the cartilage covering the upper and lower surfaces of the body, epiphyseal plates and the tips of the transverse and spinous processes. The epiphyses on the body only ossify at the periphery of the cartilaginous plate,

the central part remaining cartilaginous, but in advanced life this also may be ossified.

At the seventh intra-uterine month there is seen a rudimentary atlas and axis and then the vertebral column through its whole length. Especially marked is the extreme radiability of the inter-vertebral discs in comparison with the lessened radiability of the bodies of the vertebrae, which, however, also show a cartilaginous condition of the transverse processes throughout the whole length of the spine. Starting from above it should be noted in comparison with the radiability in the cardiac region, where the density of the heart is added to that of the spine.

At the sixth month of extra-uterine life the radiability has gradually decreased due to increased ossification of the vertebrae, whereas at two years the transverse processes of the cervical vertebrae are considerably condensed and cast a shadow. At the third year there is no especial change in the density of the cervical vertebrae. The lumbar vertebrae are, however, unusually distinct and show decidedly lessened radiability in their bodies.

During the sixth year the bodies and the transverse processes have become much more ossified and have greater density and lessened radiability.

I wish to thank Mr. Leo Massopust, the Department Artist, for his aid in preparing the illustrations of this article.

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## LIFE SAVERS

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In reading over the operative statistics of any large hospital or clinic we cannot help but note the number of deaths ascribed to such extraneous causes as: pneumonia, anesthetic death, operative shock, hemorrhage and embolus. During the past fifteen years the operative mortality has gradually decreased until surgery has been made comparatively safe. For example, where the mortality from toxic goiters ten years ago ranged from five to ten per cent., today at our best



clinics, it is less than one per cent. Similar improvement is noted in practically every type of operation.

It is with the intent and desire of further reducing mortality statistics that this article is written. Too little importance is attached to the apparent insignificant details before and after the operation, such items being usually left to assistants, internes, and nurses. Among the important factors to be considered is the operative risk of the patient. If any pre-existing ailments are present, such as bronchitis, tonsilitis, anemia, etc., the patient should be first relieved of his trouble before the operation is considered. Many a postoperative ether pneumonia would have been avoided had the surgeon spent a week or two prior to operation in getting the patient into the best possible condition. Of course if the indications are urgent, as in acute appendicitis, an anesthetic should be employed which will give the minimum amount of irritation to the bronchial condition. Nitrous oxide or ethylene in this instance is ideal if given by an expert, but very dangerous if given by a novice. Before going to the operating room a pneumonia jacket should be placed on the patient, especially if the weather is cold, and changed immediately after the operation before the patient is removed from the operating room. More attention should be paid to keeping the patient warm immediately after an operation by such simple measures as having all windows closed and a few hot water bottles in the bed and the heat turned on. Electric fans during an operation, I believe, are dangerous to the patient. Important factors in the production of shock are the amount of blood lost at the time of operation, the degree of handling of tissues, five yard rolls, pads, etc., and the amount of ether consumed by the patient. Hemorrhage should be absolutely controlled at the time of operation so that the loss of blood may be reduced to a minimum. Five yard rolls, laparotomy pads, etc. should be omitted whenever possible. In pelvic work, if the Trendelenburg position be maintained from the beginning of the anesthetic, it will rarely be necessary to use pads or packs to keep the intestines out of the field.

Trained, efficient assistants and nurses shorten the time required for the operation and thus tend to reduce shock.

Enough attention is not given to the administration of the anesthetic, the most convenient intern usually being chosen much against his will. Careful trained anesthetists can do a great deal toward eliminating postoperative complications by giving a smooth anesthetic and using the smallest possible amount of ether. The slow, gradual induction with straight ether usually insures a much smoother and safer anesthetic, and to many patients is no more distasteful than gas. We prefer straight ether and believe it to be the safest anesthetic, although nitrous oxide is usually considered as such. Local anesthesia with one-half to one per cent. novocain is ideal for many cases and certainly reduces the anesthetic risk, although it is not in itself entirely devoid of danger. However, the case must be carefully chosen for local anesthesia, as pain is a question of tolerance, which varies in different patients. What will be pain to one will not be complained of by another, and if the patient is highly nervous or temperamental, general anesthesia is to be preferred. The dangers of novocain are, first, injecting it directly into a vein, and secondly, the absorption of too large quantities. Idiosyncrasies to novocain are extremely rare.

Many patients, especially foreigners, are accustomed to sleeping in heavy underwear. This is usually removed and the patient is supplied with an abbreviated jacket which reaches to about the level of the umbilicus. In many cases he has been accustomed to sleeping with one or more featherbeds for cover, but now he gets one or two blankets, which are usually removed when the anesthetic is started. About twenty-five years ago surgeons operated on heated tables, the idea being to prevent shock in that manner. Today it is not uncommon for surgeons to operate on a patient covered only by a gown, stockings and laparotomy sheets, with a window open and an electric fan playing upon the patient. By having all patients wear flannel jackets and keeping the part of the body not involved in the operative field covered by blankets, we can do much to prevent shock. Immediately after the operation the flannel jacket should be changed, a dry gown put on, and the patient carefully wrapped in blankets. Care should be taken that the halls are not drafty or that windows are not open.

Watching a patient come out of an anesthetic should be done by skilled nurses only and such necessary instruments as tongue forceps, sponges, mouth gags, etc., should be at hand to prevent such postoperative complications as swallowing the tongue, aspiration of vomitus, etc. It is needless to add that the room should be warm, the windows down and the patient warmly covered. Normal saline or tap water per rectum should be used after most laparotomies, especially where extensive work has been done, or where hemorrhage has been excessive, as it is a potent factor in combating shock.

All postoperative symptoms should be watched closely. Stitch abscesses should be recognized early and drained thoroughly. Excessive vomiting usually means ileus, either paralytic, due to trauma, prolonged anesthesia, or peritonitis, or mechanical, caused by some obstruction which is usually adhesions. Washing out the stomach with five per cent. sodium bicarbonate solution, leaving the Rehfuß tube in the stomach, is the best treatment, as drugs are of no value. Also, fluids per rectum should be pushed. It is bad practice to attempt to move the bowels too soon. Seventy-two hours after the operation gives them time to recover from the paralytic effect of the trauma and anesthetic. Three ounces of milk of magnesia, given in divided doses of one ounce every hour on the third day following the operation and followed by a large enema nine hours later, will usually secure a good bowel movement. In paralytic ileus, one ampule of pituitrin given immediately after a large enema usually produces satisfactory results. In addition, the stomach should be washed out and fluids pushed, either per rectum or under the breasts.

Special nurses should be secured whenever possible, especially for the first seventy-two hours.

Postoperative hiccoughs are usually due to a toxic condition, such as peritonitis, and are very difficult to control. Gastric lavage in addition to morphin and atropin is probably the most efficient treatment.

For tympanites not due to peritonitis the rectal tube, milk and molasses enemas, gastric lavage and heat to the abdomen will usually suffice.

Morphin should be given as necessary in one-quarter grain doses for the first two nights to control pain and restlessness. Allanol will usual-

ly control the restlessness and insomnia after the morphin has been stopped.

The tendency at present is to get the patients up earlier than was formerly advised. For a simple appendectomy, I believe five to six days in bed is sufficient, but for more extensive laparotomies, ten days to two weeks in bed is not too long. Patients operated on for hernia or plastics of the perineum should remain in bed for ten days to two weeks. If the surgeon will personally supervise the above obviously simple details, the mortality statistics will be brought still lower. It is the strict observance of apparently insignificant details that often not only spells success, but turns apparent failure into success. 1605 East 67th Street.

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#### HERNIAS OF THE DIAPHRAGM—INCLUDING THE REPORT OF A CASE WITH X-RAY FILMS

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*History.* History shows that Petit in 1790 described an autopsy and published it as the first case recorded under the name of hernia of the diaphragm; that Paré reported 2 cases in 1610; that Bowditch collected 88 cases in 1846; that Bardenheuer did a colostomy for intestinal obstruction in 1879 which proved to be a strangulated diaphragmatic hernia at autopsy two days later; that Riolfi in 1886 reported a successful repair of a stab wound of the diaphragm; that Naumann in 1888 operated on the first case of diaphragmatic hernia which had been diagnosed clinically but in which he was unable to reduce the herniated stomach; that Walker reported an operative recovery in 1889 in which there was rupture in the diaphragm caused by a falling log; that 250 cases were reported in 1897 by Lechtenstern showing the predominance of the stomach in diaphragmatic hernia; that Giffen reported 650 cases in 1912; that in the same year Scudder reported that only 6 cases had been recorded where the diagnosis was made before operation; and that Bryan in 1921 reported 50 traumatic ward cases in which 26 recovered. Perhaps the most comprehensive survey of this subject was made by Hedbolm in 1925 when a study of 378 cases was presented.



The strange clinical symptoms produced by this condition, the uncertain causes and the diversified pathological possibilities probably account for the fact that a great many cases still remain undiagnosed. Under these conditions it would seem that a crushing injury of the chest or abdomen would more frequently suggest the probability of diaphragmatic hernia, especially in those cases of admitted internal injury where the diagnosis remains obscure. There is no doubt but that the roentgen ray is the most valuable single means of arriving at a differential diagnosis although it must be admitted that an opaque meal or an opaque enema may fail to demonstrate a hernia especially where there is a spontaneous temporary reduction or where the barium is for some reason prevented from entering the herniated organ or where such herniated organ is solid, such as the omentum. The very high death rate from cases of obstruction, and it would seem that obstruction in many cases develops sooner or later, would seem to justify the exploratory operation where a diagnosis cannot be made.

The incidence of hernia at the Mayo clinic would seem to show that there is one case of diaphragmatic hernia to 23,000 of other varieties.

In a somewhat careful review of the literature covering this subject the most interesting information is that yielded by a study of case reports, a few of which I have abstracted at random from several dozen reports to show that no age decade is exempt.

The chief object in presenting this subject is to redirect your attention to the fact that, in spite of present day x-ray facilities now so universally at the disposal of every medical man, most diaphragmatic hernias continue to remain undiagnosed at a period early enough to make surgical relief successful. In general, cases of congenital diaphragmatic hernia may be grouped either as *true*, in which the viscera enter the thorax through a weak area in the diaphragm and are covered by a sac of both pleura and peritoneum, or as *false*, in which abdominal organs find their way into the thoracic cavity through an open defect or an absence of the diaphragm. In other words at about the sixth week of embryonic life, when the opening between the pleural and peritoneal cavities should normally close, the potential diaphragmatic hernia is es-

tablished as a future possibility through the incomplete extension of the septum transversum and the pleuro-pericardial and the pleuro-peritoneal membranes. Closely allied also are the cases of eventration, where the diaphragm remains intact but is elevated, and the enlargement of the normal openings, chiefly the esophageal. Finally there are the cases of evisceration, which are of course traumatic in origin.

With the increase in the number of autopsies on still born babies or on babies who shortly after birth have died, apparently from respiratory embarrassment, and the increase in the number and thoroughness of x-ray examinations more instances of this anomaly have come to light.

Left-sided still born autopsies have been reported by Bulloch, Cruikshank, DeBuys, Gross, Huffman, Monks, Hess and a great many others.

Barney and Evans reported 2 right-sided autopsies. One showed a diaphragmatic defect without a sac in which the upper two-thirds of the right chest was occupied by coils of the intestine and the lower third by the right lobe of the liver, which, by its malposition from early fetal life, was molded to fit the thorax; the second showed the right half of the diaphragm entirely absent but where the entire liver occupied the right thorax and was covered by a pleural and peritoneal sac.

Fernandez reports a right-sided newborn case where a large thymus might have accounted for death if an autopsy had not revealed a diaphragmatic hernia.

Menville, Longaker, Southby, and Tibbetts have each reported right-sided autopsies in the new born.

Becker reported a bilateral case where the child lived to be five years old. In this case the heart and the liver occupied a portion of the right chest and the stomach and spleen were found in the left.

Davis reports a child which seemed normal up to the eighth day after birth when operation was refused. The child was kept alive for several weeks by being strapped to a frame in the semi-upright position, which apparently allowed the viscera to return from the thorax to the abdomen. It was only after the mother had ignored the necessity of this position and had removed the baby from the frame at the age of

four and a half months that symptoms of obstruction appeared and death ensued.

Fernandez reported a case of a living child where pulmonary respiration was slowly established after birth. Later on the baby was observed to be cyanotic after nursing and also during a spell of crying. Examination showed an exaggerated asymmetry of the thorax. An abdomen relatively flattened, irregular respirations of fifty per minute, left thoracic percussion, dullness and auscultatory absence of breath sounds, all combined to make the diagnosis which was confirmed by barium meal and enema. In this case the larger portion of the stomach was found to be in the left thorax. When last heard from the child was three months old and was gaining.

Greiwe reports a case of a child five and a half years old whose constant symptoms from birth included coughing, vomiting, constipation and the limitation of its diet to liquids. The parents sought medical aid on account of the vomiting of what appeared to be fecal material. An x-ray examination showed the stomach, with the exception of the pylorus, well within the left thorax. When the stomach was empty the heart assumed nearly a normal position and when filled it was displaced to the right. Greiwe's conclusions were that violent and continuous coughing had damaged the diaphragm and produced the hernia.

Gross reported a case of still birth where the left diaphragm was entirely absent and where the left thorax was occupied by the stomach, large and small intestine, pancreas, spleen and a part of the left liver lobe. The thymus in this case was very large.

Baumgartner reported a case of a man age 27 who had been diagnosed variously as neuralgia, renal congestion, renal stones and emphysema. This man was successfully operated on for right diaphragmatic hernia with an aperture as large as the hand.

Borden reported a nurse age 25 with a history of very severe pertussis at the age of seven, delicate childhood with much indigestion and shortness of breath and spells of radiating and shifting abdominal pains following an acute attack in which vomiting and a white count of 16,000 were added to the symptoms mentioned. A laparotomy was done for the removal of the appen-

dix which could not be found. The abdomen was closed after draining a large amount of free fluid and observing what appeared to be peritoneal tubercles. A few months later x-ray examinations showed a diaphragmatic hernia. Operation by the abdominal route was successful.

Hess reported a man age 31 who died of pneumonia. The autopsy showed an opening through the foramen of Bochdalek the size of a fist. There was no sac present.

Abbott has reported a woman age 42 where vomiting was the only symptom. It was present only in the recumbent position and never on standing. The x-ray showed a small esophageal hernia. He also reports a woman age 50 with all the signs and symptoms of ulcer but with no free hydrochloric acid. The x-ray showed a small esophageal hernia. The success of medical treatment in these two cases seemed to make surgery unnecessary.

Gitlow and Breakstone report a woman age 65 where x-ray revealed a diaphragmatic hernia. She remained active and apparently well with the exception of occasional discomfort in the left chest and shortness of breath.

Huffman reports a case of a woman age 50 who died a few hours after admission to the hospital with symptoms indicating myocarditis. Autopsy revealed a left diaphragmatic hernia.

Lerche reported a case of eventration of the diaphragm with operation and successful recovery.

Healy has reported 53 cases varying in age from 5 to 75.

*Anatomy.* The diaphragm may be described briefly as a musculo-fascial structure with a peritoneal surface below and a pleural surface above, with openings for the passage of the esophagus, the aorta, the vena cava, the splanchnic nerves, and with potential weak areas at the sternocostal junction anteriorly, and posteriorly at the junction of the lumbar and costal angles. The two crura have a tendinous origin on the bodies of the lumbar vertebrae, pass forward and inward and gradually converge to the middle line forming an arch beneath which passes the aorta, vena azygos major and thoracic duct. From this tendinous arch muscular fibers arise, the outermost portion being directed upward and outward to the central tendon, the innermost decussat-



ing in front of the aorta and there diverging so as to surround the esophagus before ending in the central tendon. The opening for the vena cava is tendinous, the opening for the aorta is really behind the diaphragm and therefore not in it, the esophageal opening is elliptical and muscular and formed by the two crura. It will be seen that the esophageal opening is particularly subject to dilatation and is therefore a frequent site for hernia. The aortic opening is not known to ever carry a hernia because it is tendinous in origin and not muscular and is attached to the vertebrae behind by the crura. The foramina of Morgagni and Bochdolek anteriorly and posteriorly, while perhaps weak in muscle protection, have not been demonstrated to carry hernias except rarely.

*Etiology.* Cases seem to be divided into three classes: 1. those still born or where the baby cannot inspire air and die after a gasp or two or after a feeble attempt at crying; 2. children who live for a few months or years in more or less impaired health with chronic embarrassment of respiration and succumb after some intercurrent trouble that aggravates the hernia; and 3. adults who may live to an old age with vague gastric symptoms where obstruction is precipitated or where the condition is accidentally demonstrated by x-ray or when the abdomen is opened for some other surgical cause.

General statistics seem to show the ratio of left to right cases is about eight to one. The left diaphragm would seem to be weaker owing to the openings of the esophagus, aorta, vena cava and the foramina of Morgagni and Bochdolek. The right diaphragm is shielded by the liver. Causes of hernia in the embryo and the fetus theoretically include 1. intra-abdominal pressure that is greater than the intra-thoracic, 2. an abnormally long or free mesentery, which is presumed to give abdominal viscera greater access to the chest, and 3. the inverted position of the fetus in utero. Congenital defects in one or both domes, eventration in either dome, increased intra-abdominal pressure from hard labors, the straining habit at stool and crushing injuries would seem to account for many cases.

*Symptoms.* In infancy repeated cyanosis during nursing or crying, vomiting, a prominent or asymmetrical chest with compensatory abdominal flattening, an unexplainable pulmonary dullness

or tympany should call the physician's attention to the possibility of diaphragmatic hernia. In older children and adults there is often observed heart dullness to the right of the sternum, tympany on percussion, precordial gurgling, substernal pain with regurgitation in the supine position, vague gastric distress with the well known radiating pains of phrenic irritation, and relief of oppression in the chest by putting the finger down the throat after eating a meal.

There is no very definite symptom complex in all forms of these hernias. The symptoms depend on the size of the diaphragmatic defect and the degree of constriction. In the acquired type the symptoms are acute, while in the congenital types they are more or less chronic. In both they are accentuated by any functional disturbances present; thus they may vary from a trivial digestive upset to a serious obstruction. The three symptoms which I have found most common in the many case reports reviewed are 1. Pain in the chest and epigastrium after eating, 2. Spells of smothering without apparent cause, and 3. Vomiting without premonition.

*Diagnosis.* From the case reports reviewed it would seem necessary to differentiate diaphragmatic hernia from atelectasis of the lungs, pyloric stenosis, intussusception, intestinal obstruction, acidosis, emphysema, cardiac disorders, thymus, hourglass stomach, pneumothorax, esophageal diverticulum, subphrenic abscess, gastric ulcer, gall bladder disease, malignancy, and misleading symptoms leading to well meant but needless operations. In proportion as scientific x-ray work has brought to light many otherwise obscure cases of diaphragmatic hernia, so also the x-ray ranks first in importance in the diagnosis of this condition. Abbott has pointed out the importance of the small sac often seen in its early stage bulging through the esophageal opening, the importance of the examination of the opaque meal in all positions, the holding of a deep breath and straining to bring the liver shadow down so that the region of the esophageal opening can be better viewed, the pressing on the abdomen and the straining to increase the intra-abdominal pressure, the advantage of turning the patient on either side to bring the opaque solution near to and distant from the esophagus and the absence of the gas bubble in the stomach.

*Treatment.* There have been a number of

recognized cases where refusal of operation has been followed by medical supervision as the only alternative and where the patient has progressed



Fig. 1. Case L. G., Diaphragmatic Hernia, showing marked dextro-cardia and collapse of the left lung.

fairly well for many years. It must, however, be admitted that surgery offers the only possibility of a cure where herniated viscera have passed through known structural defects. The chest should be prepared as well as the abdomen, keeping in mind the possibility that the thorax may have to be opened. An abdominal exploration, using possibly the Bevan incision, would seem to be essential in the majority of cases. The combined method in this country is looked upon with greater favor than the French method of continuous incision. The anesthetic of choice in some quarters seems to be either the intra-tracheal or intra-pharyngeal method. Maintenance of positive thoracic pressure in the reversed Trendelenberg position favors the keeping of the contents of the sac reduced. With this anesthesia the more relaxed diaphragm also facilitates the placing of sutures. With reference to the choice of the route of approach to the hernia, Borden favors the abdominal route

though he admits that adhesions may prevent a reduction from below. There is no doubt but that a filled portion of the stomach, together with many coils of intestine, having entered the thorax through a relatively small defect, it would be difficult to return the organs to the abdomen without enlargement of the hernial ring. Under such circumstances the thoracic route might have advantages. Where possible the opening in the diaphragm should be repaired by a double overlying line of suture. If the aperture is too large the remaining defect may be filled by the suturing of the omentum to the margins. There is no question but that the roentgenologist can help decide as between the choice of a thoracotomy, a laparotomy or a combination of the two. The question of production of pneumo-thorax should not tip the balance either way since that condition is produced following either approach to the hernia. Either method should be supple-

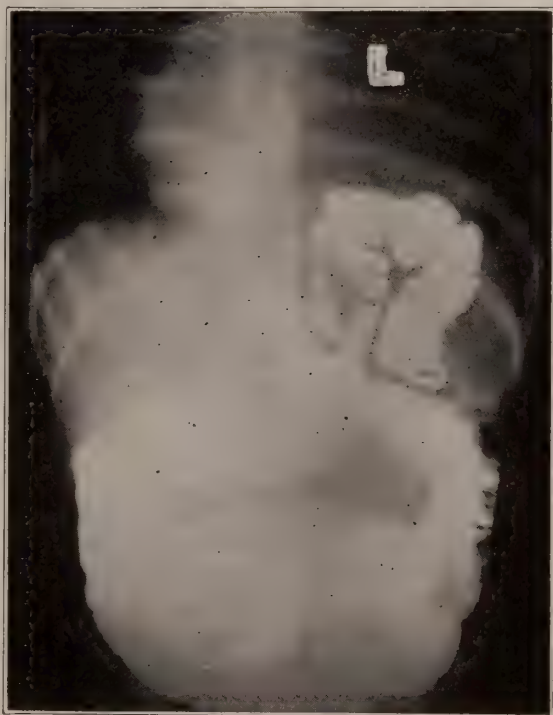


Fig. 2. Case L. G., Diaphragmatic Hernia, showing opaque enema with herniation of colon into left thorax through aperture in diaphragm; too far external to be esophageal.

mented by the aspiration of the air from the pleural cavity after it has been closed in order that the collapsed lung may begin to expand as promptly as possible.



## CASE REPORT

L. G., aged  $3\frac{1}{2}$  years, female, was referred to me at the Evanston Hospital by Dr. Elfeld of Arlington Heights, Illinois. At the age of six weeks this child had what was presumed to be a cataleptic spell. Between that time and her admission to the hospital there was no complaint except a constant habit of eating a small quantity at the beginning of her meals with the request to leave the table on account of a feeling of distended stomach. A half an hour later she would usually return for more food. The admission complaint seemed to follow a fall two weeks before en-

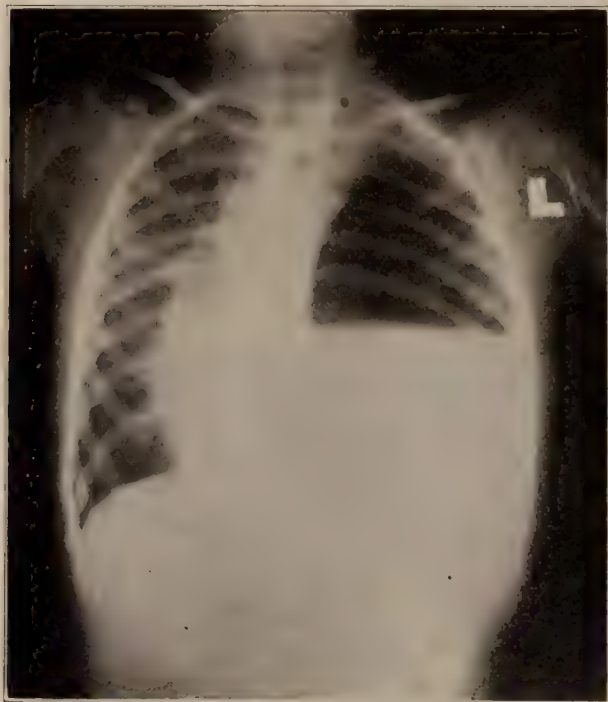


Fig. 3. Case L. G., Diaphragmatic Hernia, showing opaque meal with limitation of barium to esophagus and evident cardiac constriction. The fluid level in left chest with gas area above is beautifully revealed.

trance to the hospital, the particulars of which were unobtainable. There was not much digestive disturbance until three days before admission, when she complained of stomach ache which prevented her eating her usual quantity of food. There was no vomiting until twenty-four hours later when everything that had been eaten in the meantime was vomited. On admission the child appeared anemic, dehydrated with a dry tongue, temperature 99, pulse 100, respirations 30. The incessant vomiting at first suggested acidosis in the opinion of the pediatrician in the case. Some response was seen following the intramuscular injection of 50 cc. of whole blood from the father and the hypodermoclysis of normal saline. Rectal examination was negative. The white blood count was 12,000. The heart was observed on the left side. The following day a mass previously felt in the region of the splenic flexure

without rigidity had disappeared and the abdomen was seen to be concave in contour. X-ray of the abdomen and pelvis to locate a foreign body reported to have been recently swallowed showed no foreign body present. The following day the vomiting continued incessantly and an opaque meal and an opaque enema were given, with the report that the left lung was entirely collapsed and displaced to the right. The heart and aorta were displaced and rotated in the right thorax. The right diaphragm seemed normal. The left diaphragm could not be outlined. There was a great deal of fluid in the left pleura which seemed to be located in a hollow viscus herniated through the diaphragm. On fluoroscopic examination no barium entered the stomach. The barium passed downward to the region of the cardia and was then regurgitated. The splenic flexure of the large bowel was located high under the costal arch having the appearance of a diaphragmatic hernia. The left half of the diaphragm could not be outlined either radiographically or fluoroscopically. Feeling convinced that a filled stomach in the thorax would be irreducible from below, a left thoracotomy was performed with resection of the left seventh rib anteriorly. The posterior wall of the rotated stomach presented at the incision and was emptied of a large amount of liquid contents by aspiration. This permitted the entrance of the entire examining hand without much difficulty. The omentum, the transverse colon, a portion of the spleen, several coils of small intestine and the rotated stomach were returned to the abdomen through an old aperture in the anterior portion of the dome of the left diaphragm about  $3\frac{1}{2}$  by 2 inches in size. The entire left lung was collapsed and the heart was seen pulsating in the midsternal region. With the return of the stomach to the abdomen and the untwisting of the rotated cardiac end, a large amount of pus escaped into the left pleural cavity apparently from a perigastric abscess located around the constricted cardia. The patient died two hours after return from the operating room.

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## LIGAMENOUS INJURY ABOUT THE KNEE JOINT WITH REPORTS OF CASES\*

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In an anatomical consideration of the knee, a most remarkable quality is its strength and stability, which is consistent with its wide range of motion and with its mechanical disadvantage. The knee is a hinge joint with movement confined practically to one plane. It can be normally extended to 180 degrees and flexed to between 20 and 30 degrees varying with the amount of soft tissue in the thigh and leg. The upper articular surface of the tibia really has two parts, an inner and an outer, divided by the tibial spines and crucial ligaments, which articulate with the inner and outer condyles of the femur. If we observe these articulations in the skeleton we are at once impressed by their appearance of weakness and insecurity. An artificial joint, possessing the same degree of movement, even if constructed of the strongest metal, and put to the same strain as the knee is, namely 100 to 200 pounds, many thousands of times a day, will soon give way as is seen frequently with artificial limbs.

The integrity of the knee joint lies in the splendid arrangement and strength of the ligaments, which surround it and fortify it against derangement. The joint capsule, which entirely encloses the joint, is attached above to the femur and below to the tibia. It embraces all the ligaments which surround the joint so that these are practically reinforcements of the capsule. The arrangement of the cartilages, the muscles and tendons which pass over the joint also help to protect it against injury.

The principal ligaments about the knee are the internal lateral, the external lateral, of which there are two, a long and a short, the posterior capsular and the crucial ligaments of which there is an anterior and a posterior. Ligaments of less importance are the ligamentum mucosum and the ligamenta alaria, two loose extensions on each side of the patella.

The principal tendons which strengthen the knee are the quadriceps, patella, and patellar tendon, the tendons of the semimembranosus and

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semitendinosus, the biceps, gracilis, sartorius, and popliteus. Externally the iliotibial band also strengthens it.

The joint is deepened by the semilunar cartilages, which are attached around their peripheries to the ligaments which pass over the joint.

A common injury about the knee is a rupture of the internal lateral ligament. This is produced by force applied outside of the knee, while the foot and pelvis are fixed and the leg is in a position of extension. The rupture usually occurs at the line of the joint and may be a simple tear of the ligament or it may extend either anteriorly to the front of the joint, posteriorly to the posterior capsular ligament or both anteriorly and posteriorly. As the internal semilunar cartilage is attached to this ligament, it is frequently detached or ruptured from its position in this injury, and is apt to complicate the condition at the time of injury or any time later. The diagnosis is made on the history of the injury, tenderness on the inner side of the joint at the point of rupture, and the ability to easily deviate the leg laterally, while the lower end of the femur is held firm by an assistant. This angle may be as much as 30 or 40 degrees without causing the patient very much pain.

Rupture of the external lateral ligaments of which there is a long and a short, both quite posterior to the middle of the joint, is a much rarer injury than the former, due probably to their greater strength and to the additional protection afforded by the ilio-tibial band. It is caused by force applied on the inner side of the extended knee while the foot and pelvis are fixed. The injury may involve the long one, the short one, or both together and in severe cases the rent may extend anteriorly through the capsular ligament to the front of the joint. The diagnosis is made on finding points of tenderness on the outer side of the joint and on the ability to easily deviate the extended leg inwardly while the lower end of the femur is firmly fixed by an assistant. This angle may be as high as 30 degrees without causing the patient very much pain.

In both the former conditions the ligaments may not be ruptured at the line of the joint but they may be torn loose at their attachments either above or below the joint. Then most tenderness will be found at these points.

Another not uncommon injury is a fracture of the patella, which may be interpreted as a rupture of the quadriceps tendon, because the patella is in reality a sesamoid bone developed inside of this tendon. The mechanism of injury usually is direct tension caused by falling and alighting on the feet with the knees partially flexed. The quadriceps exerts tremendous force in preventing full flexion of the knees and thereby tears the patella apart. The rent is usually across its middle and extends through the ligamenta alaria on each side. The patella is occasionally fractured by direct force applied to its anterior surface and then there is usually a comminution of fragments. The diagnosis is made by palpation of the separated fragments and the inability of the patient to extend the leg.

Rupture of the patellar tendon is a very infrequent injury and gives symptoms similar to those of a fractured patella. The rent is felt below the patella.

In severe fractures extending into the knee joint, in dislocations of the knee and severe twisting injuries of the knee the crucial ligaments are frequently ruptured. These two ligaments are very strong and tend to prevent antero-posterior instability both in the flexed and extended positions. The anterior one, which extends from the posterior inner aspect of the external femoral condyle and the posterior capsular ligament to the anterior part of the notch between the tibial spines is tense when the knee is extended. The posterior one extending from the outer anterior aspect of the internal femoral condyle to the notch between the tibial spines and back to the posterior capsule, is tense when the knee is flexed. The diagnosis of rupture of the posterior one is found by flexing the knee and then finding quite a degree of passive antero-posterior sliding of the tibia on the femur.

Rupture of the posterior capsular ligament is rare because it is so strong that a fracture will occur in the tibia or femur before it gives way.

Any one of the injuries described may occur without any complication, but frequently there are two or more ligaments torn. These ligamentous injuries frequently are complicated by fractures, by avulsion of periosteal attachment, and by displaced semilunar cartilages.

In taking up the treatment of ligamentous in-

jury we must first take into consideration the fact that these ligaments are made up of white fibrous connective tissue which is inelastic and therefore will not contract when severed. Therefore when most ruptures occur, if the knee can be placed in a position to relax the injured ligament and allow the torn ends to approximate, the first and most important step in the treatment will have been accomplished. When this has been done the knee should be immobilized in this position until union takes place. Operative interference is only to be resorted to when the severed ends of the ligament cannot be approximated by manipulative means. Their approximation may be prevented by interposition of bony fragments, of soft tissues, or broken cartilages. I have followed this method of treatment, especially in ruptures of the internal and external lateral ligaments and I have found that they unite in as short a time as it takes for a fracture to unite and firmly and strongly enough to prevent lateral motion. The proper treatment for fracture of the patella is in the great majority of cases operative because the elastic pull of the quadriceps separates the fragments and, although fibrous union may occur between widely separated fragments, the knee is never as stable as it would be with the fragments healed in bony union.

Rupture of the quadriceps tendon is also treated by open operation for the same reason as given for fracture of the patella.

Rupture of the patellar tendon is also operative unless one can get approximation of the torn ends by tension above the patella and the application of a cast extending from the foot to the pelvis so as to completely immobilize the joints above and below the thigh, thereby preventing action of the quadriceps.

Treatment of ruptured crucial ligaments is at present not very satisfactory because of the inaccessibility of the center of the knee joint and because of the nature of the injury. Rupture of a crucial ligament usually has an accompanying complication such as rupture of the other crucial ligament, fracture or avulsion of the spines of the tibia, femoral or tibial fractures extending into the joint, torn or deranged semilunar cartilages, and rupture of the ligaments surrounding the knee. These complications are usually the more serious injuries and demand first attention. They sometimes prevent a proper diagnosis of

crucial ligament injury until they are healed and then the antero-posterior instability of the joint tells us that a crucial ligament has been injured. At the end of three months the ruptured crucial has shrunken so much that in an open operation it is almost impossible to place the atrophied remnant in proper position. In a simple anterior crucial ligament injury, the relaxed ruptured ends could probably be approximated by flexion of the knee. In a posterior crucial ligament injury the torn ends could probably be approximated by extension of the knee, which would relax the ligament.

I have purposely avoided the operative treatment of crucial ligament injury because there are several ingeniously devised operations, and while a good result is obtained in some cases, no one operation has proved to be uniformly successful.

I have described injuries of the ligaments about the knee in their simple forms, but in the great majority of cases they are complicated by additional ligamentous rupture, by fractures compound and simple, by dislocations, and by tearing of the attachments of the semilunar cartilages, resulting in a loose cartilage, a very disagreeable sequel to knee joint injury.

#### REPORT OF CASES

Case 1. B. L. R., male, aged 24 years, railroad fireman, injured September 24, 1925, by falling from a rapidly moving engine. He had a compound comminuted fracture in the lower third of the femur with a T-fracture extending into the knee joint separating the condyles. The crucial ligaments and the internal lateral ligament were ruptured. The treatment of the fracture was of primary importance and during this treatment the knee was mobilized daily. This caused daily separation of the torn ends of the crucial ligaments. The fractures healed and the internal lateral ligament healed. On examination on Feb. 24, 1926, the fracture had united, there was about 30 degrees flexion at the knee, and little or no lateral motion. On extension there was considerable antero-posterior sliding of the tibia on the femur, showing that the anterior crucial had not united.

Case 2. M. McG., male, aged 46 years, on December 20, 1925, slipped on some ice while alighting from a train and in attempting to prevent falling, twisted his knee and then fell. He immediately suffered great pain and was unable to use the leg. Examination revealed a rupture of patellar tendon, midway between the patella and the tubercle of the tibia. When the patient was asked to extend the flexed knee, there was a contraction of the quadriceps, a separation of the torn ends, great pain and no extension. Treatment: The leg was extended, the torn ends of the tendon



approximated by drawing the patella down and holding it there with adhesive. The knee was then immobilized in a cast extending from the pelvis to the foot and the patient instructed not to attempt to lift the leg. Five weeks later the cast was removed and good union of the ligament was found with ability to actively extend the slightly flexed knee. Three months later the patient has almost a perfectly functioning knee with good flexion and extension.

Case 3. Fred W., male, aged 54 years, injured March 14, 1926, in an auto accident. The left external lateral ligaments were ruptured so that the extended leg could easily be adducted at the knee to an angle of 30 degrees without much pain. There was very much swelling because of effusion into the joint. The knee was immobilized in extension with relaxation of the external lateral two ligaments. The swelling subsided and at the end of four weeks when the splints were removed the lateral ligaments were found to be quite firmly united. One week later after we got some flexion in the knee we found considerable antero-posterior sliding of the tibia on the femur showing that the posterior crucial ligament was torn. The proper treatment now would be to flex the knee as much as possible and immobilize it in a cast.

Case 4. Henry A., male, aged 63 years, was injured July 27, 1923, in an auto accident. There was a rupture of the internal lateral ligament of the left knee, diagnosed by the pain and tenderness, and by the ease with which passive abduction could be obtained at the knee. This was from 25 to 35 degrees. The leg was immobilized for one month, in the position to relax the torn ends of the ligament. Three months after the injury there was no lateral motion, the knee could be flexed to a right angle but there was considerable weakness. At the end of six months there was considerably more improvement and the patient was walking without a limp.

Case 5. Male, aged about 45 years, weighing 200 pounds, a telephone wireman, while working at the top of a pole, the lower end gave way and he fell with the pole a distance of 40 feet. He had a complete rupture of the internal lateral ligament, and the capsular ligament around to the front. His leg could be deviated, abducted at the knee without very much pain for at least 45 degrees. This was so great that he probably had a rupture of the crucial ligaments. The ligaments were relaxed and the leg immobilized in a cast. I have no further data on this case so cannot give the result.

Case 6. Gotfried Bj., male, aged 67 years, was injured, Nov. 1, 1925, in an auto accident. Examination showed a comminuted fracture of the upper end of the right fibula and a rupture of the internal lateral ligament. The torn ends of the ligament were approximated by abduction of the leg at the knee, and a cast applied after the reduction of the fractured fibula. On Nov. 21, 1925, three weeks later, the knee was inspected. It was quite movable in the direction of abduction, showing that the ligament had not healed. The cast was reapplied. On Dec. 13, 1925, six weeks

after the injury, it was again inspected and union of the internal lateral ligament was found to be quite firm. On Jan. 25, 1926, he was walking without crutches and had flexion to 90 degrees.

Case 7. Sigmund W., male, aged 19 years, on August 2, 1924, was injured in an auto accident. There was a comminuted fracture of the patella, with the accompanying disability, much swelling and effusion. X-ray showed the patella fractured into four segments widely separated. The leg was immobilized in extension for ten days and then operated on. The patellar fragments were drawn together by a double strand of kangaroo tendon which entirely encircled the patella. The ligamenta alaria which were found ruptured, were sutured with chromicized gut. At the end of five weeks good union of the patella was found. At the end of two months the cast was removed and the patient encouraged to walk and flex the knee. At the end of three months the patient had flexion to right angles and now had full flexion and perfect function.

Case 8. Mr. B., male, aged 24 years, on April 10, 1925, twisted his knee while playing tennis. He came to the University of Illinois Clinic, complaining of a painful swollen knee. The ligaments about the knee were apparently intact but there was a small amount of antero-posterior motion when the knee was flexed. A diagnosis of tear of the posterior crucial ligament was made. Immobilization in a plaster cast was advised. As the patient was a teacher and had considerable traveling to do, the leg was put up in extension. The patient returned to the clinic at the end of six weeks. Swelling had subsided slightly so the cast was reapplied. I saw the patient one year later, April, 1926. Swelling had about completely subsided. There was a little pain in the knee on extreme exertion, but it was a serviceable knee. On flexion there was a small amount of anterior-posterior sliding of the tibia on the femur, showing that the posterior crucial ligament was only partially united.

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### DIAGNOSIS OF SOME DENTAL AND ORAL DISEASES WITH A CONSIDERATION OF THEIR RELATION TO SYSTEMIC DISTURBANCES\*

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The last decade and a half marks a notable period of advancement in the field of dental and oral surgery. This specialty has risen far above

\*Illustrated lecture given before Joint Meeting of the Calumet Branch of the Chicago Medical and Calumet Dental Societies, November 19, 1926.

the standards of the days when it was considered an art having little to do with health or disease. Indeed, both the medical and dental professions have realized the correlation between dental and systemic disease, as evidenced by the ever growing interest in each other's problems and recognition of the fact that no problem dealing with dental or general health is at all times purely dental or purely medical in scope. The pathologic phenomena of dental disease and that of the investing structures are fundamentally the same as that of any infection anywhere in the body. The extent of local involvement and the severity of the secondary manifestations depend upon the virulence of the organisms, age, the vigor of the patient and his ability to ward off successfully bacterial invasion. Local conditions about the teeth and mouth always afford all the elements necessary for growth and multiplication of pathogenic microorganisms which are carried into the deeper structures through the hematogenic and lymphogenic routes. There they may either lie dormant without doing harm to the host or become a most prolific source of propagation of disease should the resistance of the individual or of some localized area of tissue anywhere in the body become markedly lowered.

A study of the investing osseous tissues of the teeth clearly indicates the processes involved in the dissemination of disease from the roots of infected teeth to remote parts of the body and confirms the conclusion that these infections cannot be considered as strictly localized conditions. Infections about root apices progress in most instances until the deeper cancellated tissue becomes involved. This tissue, which is highly vascular, soon becomes the seat of a chronic inflammation and affords every opportunity for the absorption of bacteria and bacterial toxins. In pyorrhea alveolaris, where pus is being constantly discharged into the mouth by the suppurating processes affecting the investing tissues of the teeth, systemic involvement follows not only through absorption by the blood and lymphatic capillaries of the gum tissue and periodontal membrane, but by absorption through the stomach and intestines of the swallowed pyogenic discharges. Thus absorbed, bacteria invade the viscera, muscles, joints and nerve structures, and there give rise to any one of a series of pathologic manifestations. It may be a gastric or du-

odenal ulcer, an arthritis, a myositis, a neuritis, or even a psychosis. Not all chronically infected teeth cause systemic trouble, but that is not because of an impotent pathogenicity of the organisms and toxins involved, but rather because the degree of tolerance to infection varies in different individuals and because many people have a sufficient vital resistance to combat infection successfully. Dental and oral foci are not the only causative factors in the production of chronic systemic diseases, but they should never be overlooked in the search for etiology and,



Fig. 1. Patient age 9. Case of chronic dento-alveolar abscess of 3 years standing with recurrent severe swelling and trismus. Suppurating fistula on right lower side of face was treated by occasional extra-oral stabbing and draining without, however, treating or removing the cause.

when found, every effort should be made to eliminate them, regardless of any co-existent foci present in other parts of the body.

However, excessive enthusiasm should not supersede good judgment. The method of effecting cures via the extraction route has its limitations and its dangers, when contraindicated altogether. When the removal of infected teeth is undertaken in order to clear up an initial focus or to relieve a secondary systemic involvement, care should be taken to avoid violent reactions. Although more careful pre-operative diagnosis and better operative technic of the present time lessens to a great extent the operative risks, there are times when a comparatively simple operation upon the jaw is followed by fatal termination. This especially occurs when there are renal and cardiovascular complications,



when the resistance of the patient is lowered by protracted illness and absorption of large quantities of septic material takes place after extraction of too many teeth at one time or following extensive curettage of large and badly infected

oral symptoms of the metal and drug poisonings are examples of this phenomenon. There is rarely a constitutional disease, whether it is one of the blood or of the degenerative, metabolic or nutritional type, where there is no ab-



Fig. 2. Roentgenogram showing abscessed permanent first molar tooth which caused this condition.

areas. Such patients should be treated with caution and always given the opportunity to build up a sufficient vital resistance before further work of clearing up local infection is undertaken. In a large number of cases there is a gradual and in some cases even a spontaneous clearing up of remote symptoms after oral foci are removed. When, however, there is the existence of advanced secondary pathological changes of long standing not readily admitting of correction, the results may be disappointing.

Next to a proper evaluation of the dental findings with reference to their etiologic significance in every case of systemic disease, a better understanding of the so-called symptomatic mouth lesions is of great importance. In the oral cavity are very frequently registered the reactions of many systemic disturbances. In such cases the lesions in the mouth are, of course, secondary and definitely pathognomonic to the more serious pathologic changes which are taking place elsewhere in the body. The well-known and clinically characteristic oral manifestations in most febrile diseases, such as the typical Koplik's spots in measles, the grayish-white spots on tonsils and pharynx in diphtheria, the strawberry tongue in scarlet fever, the dry and abraded oral mucous membrane in typhoid, etc.; also the mucous patches in early syphilis and the

normality of some kind or other about the oral tissues. Thus we observe that diseases like diabetes, anemia, pernicious anemia, tuberculosis and leukemia are invariably associated with



Fig. 3. Case of chronic dento-alveolar abscess treated by occasional extra-oral incision without removing cause.

spongy, bleeding gums and pyorrhea. Sore, bleeding gums and glossitis are especially prevalent in the anemias. In achlorhydria and pellagra, a condition exists which not only produces a glossitis and sore mouth but there is also an inflammatory reaction which frequently involves

the entire gastro-intestinal tract. It is not uncommon for dentists to hear complaints from patients suffering from renal and cardiovascular diseases and resultant hypertension, and who wear artificial dentures, that they suffer from burning sensations in the tongue or palate.



Fig. 4. Roentgenogram of abscessed tooth, the causative factor.

These symptoms are very distressing and can only be explained on the basis of circulatory disturbances.

Obviously, it is not only unscientific but futile to treat local conditions which, as in these instances, are but manifestations of some deeper pathologic processes, without studying in collaboration with the physician the patient's general physical condition and instituting adequate

general treatment. Likewise, the many abnormal conditions about the teeth and associated structures require the care of one trained in dental and oral pathology. It is, then, not only good practice on the part of a physician attempting to treat oral diseases, but his duty to avail himself of the counsel of a qualified dental practitioner in all such cases.

To illustrate the point, I would call your attention to a practice unfortunately still in vogue with some physicians, viz: to treat dento-alveolar abscesses by making extra-oral incisions for drainage but leaving the offending tooth intact. In many of these cases there are not only suppurating fistulous openings which drain for years, but also ugly permanent scars which mar the face. Figures 1, 2, 3 and 4 are typical examples of the effects of this obsolete procedure. The same may be said about the treatment of jaw fractures by medical practitioners without competent dental aid, for here a knowledge of dental and associated tissues, as well as dental prosthesis, plays a very significant part. Fig. 5 shows a case of severe necrosis of nearly one-half of the mandible, the result of incompetent treatment of a double fracture by a rather suc-



Fig. 5. Case of necrosis of nearly one half of mandible following inadequate treatment of fracture.



cessful general surgeon without the collaboration of a dentist. An examination of the case history showed that had there been early reduction and good approximation, and had immobiliza-



Fig. 6. Case of submaxillary ranula treated as dento-alveolar abscess. Roentgenogram showing healthy bone in region of extracted posterior teeth.

tion been established and maintained by suitable wiring or prosthetic appliances, followed by ordinary care, there would have been no complications and an uneventful recovery.

Correct diagnosis is the basis of all proper scientific evaluation. It is the means by which we are able to differentiate and discriminate between one set of symptoms and another. An insufficient application to the study of diagnosis causes many errors of judgment on our part and frequently irreparable damage and loss to the patient. I will give you the history of one of my cases in which the result of mistaken diagnosis is clearly exemplified. A young woman of about

thirty years of age, came to me with a diagnosis of dento-alveolar abscess previously made by the attending physician. By his direction the dentist had extracted every tooth posterior to the first bicuspid on the lower right side two months before, without affording any relief. Upon examination, I found a swelling at the right side of the floor of the mouth; externally a swelling under the jaw on the same side was painfully noticeable. Palpation over the submaxillary and sublingual regions elicited some pus, and stimulation of the glands caused some pain. The bone in the region of the extracted posterior teeth

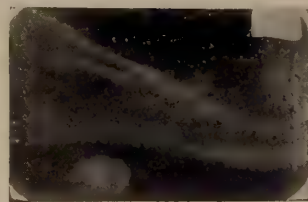


Fig. 7. Roentgenogram showing stone which, if it had been obtained previously, would have made the diagnosis clear.

appeared well healed and the radiograms brought by the patient revealed no abnormality (Fig. 6). I found, however, that stimulation of salivary secretion during mastication and at other times caused pain and increase of what appeared to be



Fig. 8. Typical roentgenographic picture in case of acute maxillary sinusitis.

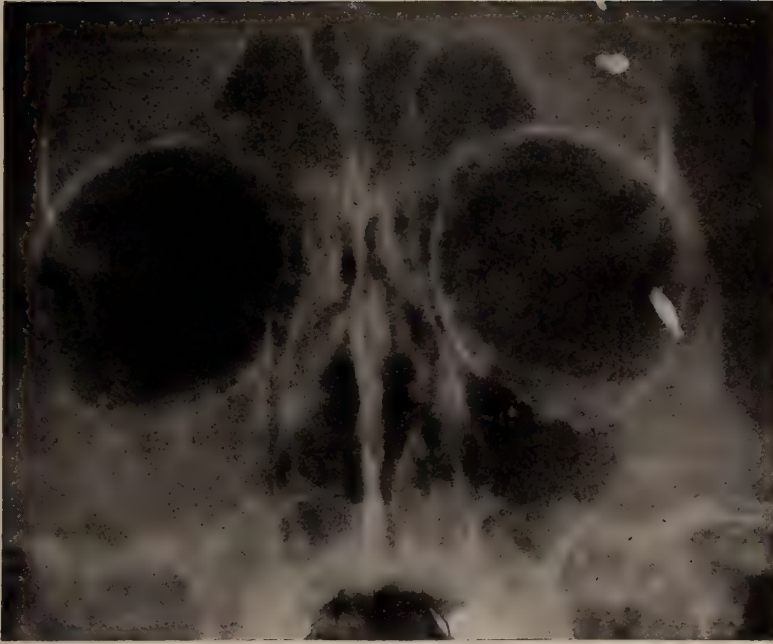


Fig. 9. Chronic maxillary sinusitis caused by abscessed teeth which penetrated floor of antrum.

swelling, which would soon after gradually subside. A diagnosis of ranula was made and confirmed by roentgenograms (Fig. 7), which were obtained after considerable difficulty. The stone was removed and the patient recovered but the serviceable teeth had already been lost.

A condition which calls for careful diagnosis and should be mentioned here is that of severe pain about the face, jaws and teeth, especially following acute infections commonly known as

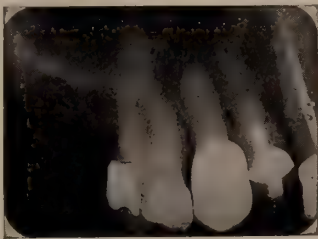


Fig. 10. Roentgenogram of upper bicuspid and molar teeth showing area of decalcification about the root apices caused by chronic abscess formation which extends into sinus.

"colds." The infection not infrequently extends from the nose to the maxillary sinuses. Often the involvement is only on one side. The pain is very sharp, constant, and radiates over the

entire path of distribution of the fifth nerve. The teeth on the affected side, especially the posterior, are sore to touch and upon occlusion, and there is a general condition simulating a severe periodontitis. I have seen patients who had perfectly good teeth extracted needlessly in attempts to obtain relief from just such conditions, whereas treatment by a competent rhinologist, washing out of the sinuses through the natural opening in the antra-nasal wall to evacuate the purulent fluids, is the procedure indicated, for here we are dealing with a condition of acute maxillary sinusitis (Fig. 8). On the other hand, it is not uncommon to see chronic antrum infections treated by rhinologists without directing any attention to extensive abscesses about roots of teeth which are in many cases the primary foci, and which cause destruction by necrosis of the floor of the antrum, later to be followed by pathologic processes involving the entire sinus (Figs. 9 and 10). There are also cases where dentists treat suppurative conditions of the maxillary sinuses through sockets of extracted teeth, whereas the real pathologic condition is in the frontal sinuses, the ethmoids and sphenoids, the maxillary sinuses in these cases only serving as



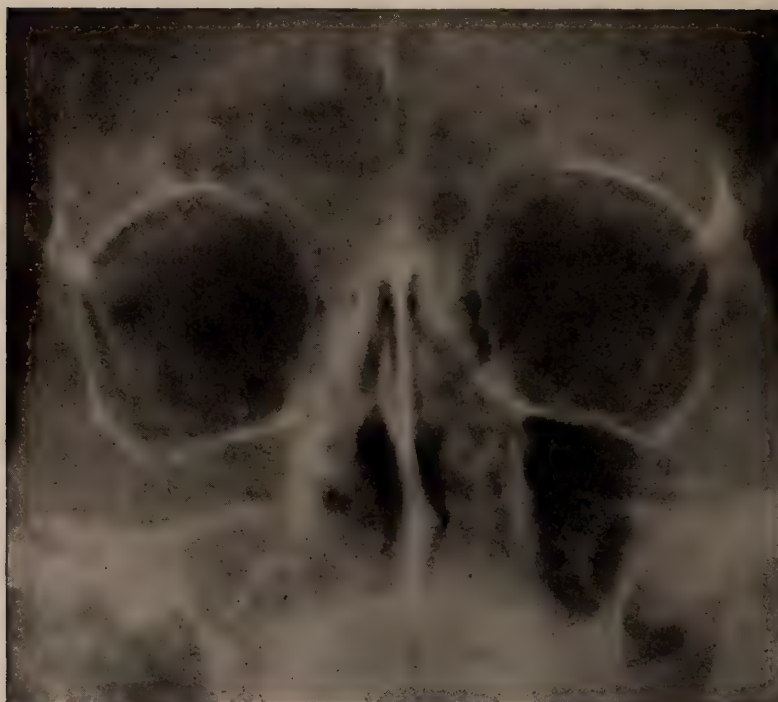


Fig. 11. Roentgenogram showing ethmoiditis and frontal sinusitis draining into maxillary sinus.

reservoirs into which the pus is drained from above (Fig. 11).

Another condition where a correct diagnosis is important, yet frequently inaccurate, is that of cyst of the jaw, especially before the pathologic condition reaches a very destructive stage. In the advanced cases of the type of cyst commonly known as root, radicular or periosteal cyst, there is already a sufficiently large area of bone

treatment which usually follows, viz: either treatment and filling of the teeth or extraction without enucleation of the cyst sac itself, does not eradicate the disease. To the contrary, such

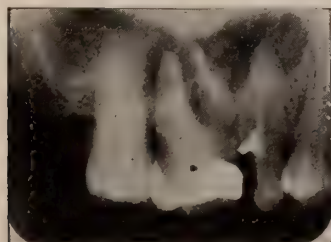


Fig. 12. Dental roentgenogram easily suggesting abscess at apices of upper bicuspid and molar region.

destruction to cause serious concern and the seeking of a proper remedy. In some stages, however, especially when the cyst is in the superior bicuspid and molar region, and the maxillary sinus obscures a clear-cut roentgenographic interpretation, a diagnosis of chronic dento-alveolar abscess is not uncommon. The wrong



Fig. 13. Roentgenogram of same region only higher up showing presence of cyst.



Figs. 14 and 15. Roentgenograms of superior bicuspid and molar regions showing extensive destruction of bone substance by radicular cyst involving maxillary sinus. This case was previously treated as an abscess and the 2nd. bicuspid and 1st. molar teeth were extracted.

treatment is usually followed by much pain and greater destruction of bone substance, which not infrequently involves the maxillary sinus and a portion of the jaw (Figs. 12, 13, 14, 15 and 16).

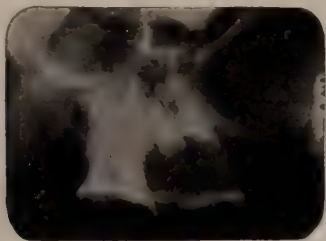


Fig. 15. Roentgenogram showing cyst in bicuspid and first molar regions of the lower jaw. The teeth were previously extracted but cyst membrane was not enucleated.

Impacted teeth should not be overlooked as possible causes of reflex nerve disturbances both of the neuralgic type, where there is pain of varying intensity, and nervous conditions known as reflex neuroses with an accompanying chain of symptoms, from insomnia and irritability to severe manifestations of unsoundness of mind. Proper dental treatment is frequently all that is needed to obtain relief from reflex irritation

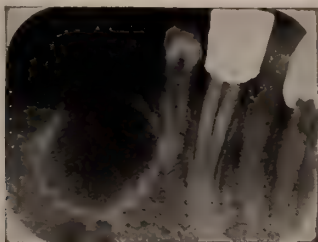


Fig. 16. Roentgenogram showing impacted supernumerary lower bicuspid tooth in patient who recovered from a condition simulating trifacial neuralgia soon after its removal.

to the eye, the ear and associated parts, caused sometimes by common pulpitis, abscess or pulp stones, either of which is at times not readily found by clinical or even radiographic examination. (Figs. 17 and 18).

Whenever the subject of diagnosis of oral lesions is under discussion, a consideration of oral malignancies becomes apparent to every physician and dentist. Much could be said in reference to this problem but time does not permit. It will be sufficient here to say that successful prevention of many cases of mouth can-

cer is possible through the alertness of the physician and the dentist, especially the dentist, and the education of the patient. Irritation of the mouth tissues of whatever nature should not be tolerated and all abnormal growths should be viewed with suspicion. In my own practice, I have all abnormal growths, no matter how small, examined in the laboratory after excising them well beyond the actual zone of extension. If the section under the microscope shows malignancy,



Fig. 17. Roentgenogram showing extensive abscess and impacted cuspid teeth in right and left sides of upper jaw in patient who recovered from serious nervous disturbance after their removal. The jaw was supposed to be edentulous and the patient was wearing an artificial denture for eight years.

the case is followed up with radium or deep x-ray therapy by a well qualified radiotherapist.

In conclusion, I wish to say that it is gratifying, indeed, to have had the pleasure of meeting with these two societies in joint session. This get-together for a consideration of some of our



Fig. 18. Roentgenogram showing impacted supernumerary lower bicuspid tooth in patient who recovered from a condition simulating trifacial neuralgia soon after its removal.

common problems is further evidence of the need and ever growing earnest desire on the part of the two professions to cooperate wholeheartedly for the ultimate good of our patients.

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THE ROLE OF FOCAL INFECTION IN  
DISEASE OF THE URINARY TRACT\*

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In the early days of American Medicine, the versatile Benjamin Rush, signer of the Declaration of Independence, as well as eminent physician, observed that rheumatism, dyspepsia, and epilepsy were relieved by the removal of offending teeth, but it was not until a century later that the real significance of the human mouth as a focus of infection began to be recognized.

In the year 1891, Dr. W. B. Miller, an American dentist, Professor in the Dental Institute of the University of Berlin, presented this subject in a highly scientific paper<sup>1</sup>, citing as diseases resulting from mouth infection,—general pyemia, croupous pneumonia, gangrene of the lung, and tonsillitis. He suggested that the pneumococcus might gain entrance to the blood through the lung without intervening pneumonia, and might cause a primary peritonitis, endocarditis, or meningitis; and stated as his growing conviction: "If many diseases whose origin is enveloped in mystery could be traced to their source, they would be found to have originated in the oral cavity."

The next important contribution to this subject was made in 1900 by Sir William Hunter, who, after twelve years of observation and study, proved oral sepsis to be a cause of remote as well as local disease, and in a classically beautiful article in the *London Practitioner*<sup>2</sup>, enumerated among the results of mouth infection,—osteomyelitis, endocarditis, suppurative nephritis and neuritis.

Ten years later, in 1910, one of America's greatest clinical teachers, Dr. Guy L. Hunner of Baltimore, discovered by accident that a causal relationship existed between tonsils and chronic "rheumatic" urethritis. After treating a case of this kind for five months unsuccessfully, the patient happened to ask why her throat was sore for a few days following each treatment: quoting from Dr. Hunner's article,—"Examination of the throat showed a pair of unusually large and inflamed tonsils. These were removed, where-

upon the patient's bladder symptoms cleared up, and the urethral mucous membrane resumed a normal appearance."<sup>3</sup>

Two years later the explanation of the above mentioned observations was forthcoming in the theory of focal infection perfected by Chicago's great leaders of medical thought, Dr. Frank Billings and Dr. E. C. Rosenow, and the term "Focal Infection" appears for the first time in the index of the *American Medical Journal* for 1912 as the title of a paper by Dr. Billings.<sup>4</sup>

Today the relation between diseased teeth and tonsils on the one hand and arthritis, endocarditis, and myocarditis on the other hand is firmly established; but the parallel and equally important relation between focal infection and disease of the urinary tract is not yet common property of the profession. Since the application of this principle in our own work among women suffering from diseases of the urinary tract has proven so helpful, it has seemed worth while to review our cases from this standpoint, to tabulate our conclusions, and to present a few illustrative case reports.

The records of our private and clinic cases show the relative frequency of the commoner lesions of the urinary tract in one hundred cases to be as follows:

Urethritis and trigonitis .....	50
Pyelocystitis .....	20
Ureteral stricture .....	18
Bladder tumor .....	9
Calculus (renal, ureteral, or vesical) .....	7
Tuberculous infection .....	5
Bladder ulcer .....	4

About 25 per cent. of the inflammatory lesions were the result of gonorrheal infection. In the remaining 75 per cent. the etiology was for a long time obscure and covered by the blanket term "rheumatic." In the large urethritis-trigonitis group, we first learned the lesson of focal infection. Before appreciating this relationship, we found that while patients presenting non-specific lesions of the trigone and urethra were usually readily relieved of their symptoms, the relief was not apt to be permanent. After six to twelve applications of silver nitrate solution through the Kelly cystoscope, the redness and edema of the mucous membrane would disappear and likewise the patient's symptoms of painful and frequent micturition, but in the majority of cases this improvement was only temporary.

When thoroughly convinced of the chronicity of these cases, and almost ready to accept the

\*Read before the Chicago Medical Society and the Chicago Council of Medical Women, April 27, 1927.

dictum "Once a cystoscopic patient, always a cystoscopic patient," our attention was called by Dr. Hunner to his discovery of the importance of focal infection in their etiology, and we began to investigate our own cases with this in mind. The history of the first case in which this connection was established is as follows:

Rose M., 16 years of age, an unmarried mill girl, had suffered from painful urination for two years. The pain was so severe that she had formed the habit of drinking as little water as possible so that she would not have to urinate more than twice in 24 hours.

Inspection showed an intact hymen and no evidence of gonorrheal infection.

Cystoscopic examination showed violent redness and edema of the inner third of the urethra and a normal bladder mucous membrane.

After the usual course of silver nitrate applications resulted in practically no improvement, search was made for some remote source of infection, large unhealthy tonsils were found and their removal advised. After removal of the tonsils, the urethral mucous membrane resumed its normal appearance and the patient voided without pain.

In older patients the focus is more apt to be found around the teeth or in the sinuses, as shown by the following cases:

Helen D., an unmarried music teacher, 41 years of age, came complaining of burning urination of six months' duration.

Inspection showed an intact hymen and no evidence of gonorrheal infection.

Cystoscopic examination showed marked inflammation of the inner third of the urethra and trigone.

Examination of the mouth showed pyorrhea and many extensive fillings.

After a few cystoscopic treatments the patient was advised to put herself in the care of a skilled dentist for complete elimination of oral infection. After the extraction of two teeth and several months of dental treatment, she came back to report her mouth in good condition and her bladder symptoms entirely relieved.

Mrs. B., a thin, frail, nervous woman, 48 years of age, persisted in coming from Trenton to Philadelphia at frequent intervals on account of soreness in the bladder, frequent and painful urination.

Inspection showed no evidence of gonorrheal infection.

Cystoscopic examination showed a moderate inflammation of the urethra and trigone, for which the patient was treated over a long period of time with only temporary relief.

Finally an x-ray examination of the teeth was advised, which showed alveolar absorption, one apical abscess, one devitalized tooth and several crowned teeth with unfilled root canals. The cause of the bladder trouble was found.

Only half convinced that the way to get rid of her bladder symptoms was to get rid of teeth which were not troubling her, the patient reluctantly discontinued

her cystoscopic treatments and spent her spare time in the dentist's chair. By the time the mouth was in good condition, the bladder symptoms had disappeared.

One year later her symptoms returned, and cystoscopic treatments were about to be resumed when a careful nose and throat examination revealed empyema of the antrum. After the antrum was drained, the bladder symptoms again disappeared.

On reviewing a series of similar cases, we found a record of infected teeth in 65 per cent., infected tonsils in 14 per cent., both infected teeth and infected tonsils in 9 per cent., or a total of 88 per cent. due to oral foci of infection. Unfortunately we cannot report that all these cases have been cured. Many patients scoffed at the idea that their bladder symptoms could be relieved by removing infected teeth or tonsils, and promptly dropped from view. Others would follow our advice half way, would have teeth showing apical abscesses extracted, but would persist in cherishing one or more devitalized teeth, and would be only partially relieved. In practically every case in which we secured complete co-operation, we were able to accomplish complete and permanent relief. It was interesting to note that after tonsillectomy or dental extractions, the patient's local trouble would flare up for several days and she would complain bitterly of the symptoms for which she originally consulted us. This always encouraged us greatly and led us to renew our prediction that within six weeks after the complete removal of the infectious foci she would be entirely relieved.

In our patients with pyelo-cystitis, infected teeth or tonsils were present in 92 per cent. The relationship between these two conditions is well shown by the following case:

Mrs. M. R., widow, 58 years of age, became chilled while watching a golf game and on reaching home was obliged to urinate with great frequency and suffered great pain at the end of voiding. Her temperature rose and her symptoms grew worse until she was voiding every ten minutes during the day and six or eight times at night. On the seventh day of her illness she had a chill, her temperature rose to 103° and her urine was loaded with pus.

Cystoscopic examination showed a severe diffuse inflammation of the bladder with ureteral orifices completely obscured. A few days later, ureteral catheterization was possible, and showed that the urine from both kidneys contained pus. By means of a wax bulb catheter, a stricture was located in each ureter, and as these strictures were gradually dilated, fever disappeared and pyuria diminished.

In the general physical examination, an unhealthy condition of the mouth was discovered and an x-ray



picture of the teeth showed several apical abscesses and marked alveolar absorption. Ten teeth had to be extracted before the mouth could be considered healthy. From the extracted teeth a streptococcus was isolated which was injected into three rabbits, two of which showed purulent cystitis at autopsy. This patient had no return of symptoms in four and a half years.

Similarly infected teeth and tonsils were found in 86 per cent. of our patients with ureteral stricture. Our attention was first called to this fact by a patient giving a typical ureteral stricture history, as follows:

Mrs. M. S., 35 years of age, came complaining of pain in the left ovarian region which she had had off and on for seven years, since the birth of her only child. For the relief of this pain, two unavailing operations were performed: the first consisted of the repair of an extensive bilateral laceration of the cervix and an hemorrhoidectomy, after which the patient woke from her anesthetic, announcing that she had "the same old pain." Two months later, at the patient's request, an exploratory laparotomy was performed, which revealed perfectly healthy non-adherent appendages, as had been predicted. Eventually a stricture of the left ureter was located, and dilated by the wax bulb catheter, with complete relief of the pain in the left side.

Every few months a recurrence of the pain would bring the patient back with the request for another dilatation. Finally an x-ray examination of the teeth was made which showed several apical abscesses. Extraction of each diseased tooth was followed by an exacerbation of the pain in the left side; several weeks after the last extraction, the pain disappeared and has not returned during a period of three years.

Such case reports could be multiplied indefinitely. The experience thus gained has led us to revise our opinion of the incurability of these inflammatory lesions of the urinary tract. We now feel that the first step in the examination of a patient complaining of bladder symptoms should be a careful inspection of the mouth and throat, and we believe that an x-ray picture of the teeth is as essential to diagnosis as an x-ray of kidneys, ureters, and bladder.

By following this routine we are able in a large percentage of cases to discover the cause, and can take steps to eliminate this while treating the local pathology. This procedure has greatly decreased the number of cystoscopic treatments given, and at the same time greatly increased the number of patients permanently cured.

In our efforts to eliminate every possible focus of infection we have, as a rule, received ready co-operation from the nose and throat specialists but not from the average dentist. Bitter expe-

rience has taught us that it is not enough to ask the patient if her teeth are all right, or to take the word of "her very good dentist," while even the evidence of the x-ray may fail in the case of devitalized teeth. In the majority of cases we find that in order to get the bladder well, we must shoulder the responsibility of the oral cavity also and must insist—often against opposition from every side—upon the removal of all devitalized teeth, as well as of those presenting apical pathology. Fortunately the relief afforded these patients is so great, and their appreciation of our efforts so sincere, as to make this well worth while.

#### CONCLUSIONS

1. Foci of infection in teeth or tonsils were found in 88 per cent. of non-specific inflammatory lesions of the urinary tract.
2. Complete elimination of these foci of infection has been found to be essential to permanent cure.
3. Closer co-operation on the part of the Dental Profession is greatly to be desired.

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#### CHOLESTEATOMA OF THE CECUM

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J. PALMISANO, M. D.,

CHICAGO

The following case is reported for its rarity and the light it may throw on the problems of cholesteatomatous tumors. V. L., a white woman, 18 years old, married. Her husband is undergoing specific treatment at present. One year ago he had a Neisserian infection. Patient has no children, no menstrual disturbances. Six months ago she went through some trouble suggestive of appendicitis. No abdominal mass was ever palpated. On May 23 the patient was seen by both of us, on third day of present sickness. She presented the usual signs of an acute appendicitis, pain, vomiting, fever, tenderness, generalized abdominal rigidity, frequent pulse and leucocytosis. A cervical smear showed no gram-negative intracellular cocci. Operation at Mother Cabrini's Memorial Hospital revealed a

ruptured appendix. The cecum looked distended and had a doughy consistency as if filled with fecal matter, but its contents could not be displaced upwards or downwards. On incising the wall of the cecum a glistening tumor was easily peeled out. The tumor lay inside the layers of the cecal wall, encroaching on the opening of the appendix, but not communicating with the lumen of the bowel. The pathological report by Dr. I. Pilot follows:

Specimen presents ovoid mass, 7.5 cm. by 5 cm. in diameter, of grayish yellow color and of soft, doughy consistency. Section reveals semi-solid gray contents, partially granular; wall measures from 1 to 2 mm. in thickness. Material adjacent to inner surface or wall is white and scaly.

Microscopical findings: Contents are largely desquamated squamous cells, not nucleated, poorly staining; no cholesterol crystals are present. Wall presents inner layer of stratified squamous epithelium with considerable numbers of desquamated non-nucleated cells. Outer layer is largely fibrous tissue with numerous sebaceous glands and moderate number of vessels.

Chemical examination showed cholesterol content of 0.1 percent.

Diagnosis: Cholesteatoma of Cecum.

Comment:

The localization of the tumor is of interest; only one similar case has been reported, by Humiston and Piette.<sup>1</sup>

The most significant feature of these tumors is the stratified layer of desquamating cells at the base. The desquamated material is not carried off as on the surface of the skin, but forms onionlike concentric layers of flat cells with or without cholesterol crystals. These layers constitute the characteristic mushy cholesteatomatous masses.

Virchow<sup>2</sup> and lately O. Schultze thought these cells to be of connective tissue origin. Delafield and Prudden<sup>3</sup> and a good many others continue calling them endothelial structures. Others credit these cells to metaplastic changes. Now, cylindrical cells in many organs, following inflammation, are commonly replaced by squamous cells, but while the latter may simulate the shape of epidermic cells, they cannot assume their function of desquamating.

We have sufficient facts on hand to settle definitely the status of these cells as of epidermic origin. The structure of the stratified layers is characteristic of the epidermis of the skin, the tumor cells becoming flattened or deformed in proportion to the degree of intracystic pressure.

There is a sharp demarcation between the epithelial cells and the connective tissue cells of the capsule and the former in the proximal layer are placed at right angle to the connective tissue cells. E. Leutert<sup>4</sup> among others has proved by contrast-stains the presence of eleidin granules in the more distant layers of the tumor cells, and the presence of these granules is characteristic of the statum lucidum of the skin. The presence of sebaceous glands in some of these tumors clinches the argument in favor of the epidermic origin of the cholesteatomatous tumors. They are properly considered as congenital and as the result of embryonic displacement of epidermic germ cells.

Some of the tumors reported possessed sebaceous glands and hair, in others these were missing, distribution and character of the tumor re-



Fig. 1. Magnification 95 diam. Sebaceous gland in connective tissue capsule. Stratified layers of epithelial cells.

maining the same. Our case showed sebaceous glands, but no hair, a finding we cannot find duplicated in the literature. The tumors without glands must be credited to the epidermis—epidermoids, while those with those appendages are dermoids histogenetically.

In distinction from these primary or congenital cholesteatomata there is a group that is produced by trauma or chronic suppuration and are called false cholesteatomata.

Traumatic cholesteatoma has been produced experimentally (E. Kaufmann<sup>5</sup>). The comb of



a rooster is without sebaceous glands and is used. If a portion is detached from its surroundings and buried, a pearl cyst forms. Analogous conditions are met with in practice. Blumberg<sup>6</sup> reports several cholesteatomatous cysts of the palm following stab wounds.

As a result of chronic suppuration these cysts occur in the skin (elephantiasis), the genitourinary organs, the ear. The tendency is to consider all cholesteatomata as secondary. For the urinary organs Klug proved for his cases that the pearl cysts were primary and that the concurrent pathology—stones and tuberculosis—was incidental. As to the otologists, they have been dominated by the weight of the opinions of Troeltsch, Bezold, Politzer, Haberman, who, though admitting the occurrence of isolated cases of primary cholesteatoma in the ear, credited the bulk of them to chronic suppuration. According to Haberman, epidermis travels into the middle ear through the perforated drum-head, becomes sequestered as a result of continued suppuration and forms cholesteatomatous cysts.

A differentiation of these two forms may be attempted, though difficult in some cases. Oppenheimer states that they both look alike pathologically, discouraging further study. But the finding of sebaceous glands would certainly prove significant. The clinical course may show differences. A short inflammation yielding cholesteatomatous masses cannot be held responsible for their causation. The primary form is probably also more intractable; it penetrates in the course of its growth into the Haversian canals which makes surgical removal nearly hopeless and any portion left tends to reform and to continue growing.

Old age of the patient does not rule out the congenital origin of the tumor, as the growth of the latter is slow and it need cause no clinical signs.

The statistical method may be used to determine the character of the growth. The latter being essentially a malformation should show about the same relative frequency as compared to other morbid processes as other choristomata. These relations where large numbers are concerned are fairly constant.

#### CONCLUSIONS

1. Cholesteatoma is a derivative of the epidermis.

2. Its origin must be traced to embryonic displacement of epidermic germ cells.

3. When epidermic cells become sequestered as a result of trauma or chronic suppuration and continue desquamating, they may form pearl cysts that are called false cholesteatomata.

4. The frequency of these pseudo-cholesteatomata as compared to the congenital form is commonly overrated.

2705 North Avenue.

#### LITERATURE

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5. E. Kaufman: Ueber Enterokataarrhaphien von Epithel. Virch. Archiv. V No. 97.
6. J. Blumberg: Ueber traumatische Epithelcysten. Deutsche Zeitschrift fuer Chirurgie. Vol. 38, 1894.

## Society Proceedings

### ADAMS COUNTY

June 16, 1927. This was the annual picnic of the society and was held at Camp Irwin at Martindale on the Mississippi, the weather being ideal for such an event. One hundred eighteen members and guests were present.

The members began to congregate about 10:00 A. M. The morning was spent in outdoor sports. At 12:45 P. M. an excellent chicken dinner was served by Clyde Collins, there being 118 physicians and dentists at the tables.

Following the dinner, Dr. Grant Irwin introduced the following, who addressed the physicians present.

Hon. C. L. Weems, Mayor of Quincy; Dr. T. W. Rhodes, Public Health Officer of Quincy; Dr. E. G. C. Williams, Danville, Ill., who spoke at length on "Professional Collections." Dr. Williams' remarks were discussed by Drs. F. T. Brenner and C. A. Wells. Dr. J. W. Crewdson of Louisiana, Mo., Mayor of that city, gave a fine address on the advantages of Louisiana and proved himself a real orator. Dr. Crewdson was followed by a colored quartet that rendered some real southern harmony. Dr. Irwin then introduced Dan Weigle, Director of the Quincy Chamber of Commerce drive, who spoke on the splendid cooperation Quincy physicians were giving by becoming members of the Chamber of Commerce. The meeting then adjourned but was continued by small groups until the early hours of evening, with a light luncheon at about five o'clock. All-in-all the picnic was the largest attended and was the most successful that the Adams County Medical Society has ever had and everybody stated that they thoroughly enjoyed it.

June 17, 1927. This was the regular monthly Council meeting of the society. The following were

present: Drs. Irwin, Cohen, Knox, Center, Wells, Koch, and Swanberg.

A bill for \$10.00 for the History of the Medical Practice in Illinois which had been contracted for some years ago was presented and ordered paid. The matter of cooperating with the Parent-Teachers Association in regard to physicians examining pre-school children was presented in the form of a letter from the local chairman of the Parent-Teachers Association. A motion was carried that the Secretary communicate with the Parent-Teachers organization and state that the Adams County Medical Society was glad to cooperate in this movement in the manner that has been recommended by the Illinois State Medical Society; that such examinations be made by the family physicians and that physicians make a charge of \$2.00 for same; that this fee had already been agreed upon at a meeting of the society some months ago; if the family is poor and unable to pay it is recommended that the family physician make no charge. The motion was seconded and unanimously carried. A motion was carried that the Secretary write a letter thanking Dr. E. G. C. Williams of Danville for his splendid address to the society at the picnic yesterday. The matter of medical collections was brought up and discussed. A motion was carried that the President be instructed to appoint a committee of three to investigate the best methods of obtaining medical collections, this committee to report their recommendations at a subsequent meeting of the Council. (Committee, Drs. Frank Cohen, A. Germann, M. E. Bitter).

The meeting adjourned at 1:25 P. M.

HAROLD SWANBERG, M. D.,  
Secretary.

### GREENE COUNTY

The annual Picnic Meeting of the Greene County Medical Society was to have been held in Greenfield but road and weather conditions were such that it became necessary, at the last minute, to change to Carrollton. Eight members and their families were present.

Dr. Mather Pfeifferberger addressed the meeting on the subject "Gallbladder Diseases." Dr. Pfeifferberger's paper was so written that it was of special interest to the general practitioner and it called forth a free discussion from those present. We hope to have the doctor and his family with us again when conditions are more favorable.

No business session was held.

The next meeting will be held in White Hall on Friday, September Ninth. WM. H. GARRISON,  
Secretary.

### HANCOCK COUNTY

The Hancock County Medical Society gave a farewell dinner to Dr. L. C. Knight of Carthage at the Hotel Carthage, Wednesday evening, June 15. Dr.

Knight has been a live efficient secretary of the society for four years. Dr. Knight is leaving for a year's study in Chicago, in eye, ear, nose and throat work, especially oto-laryngology in the service of Dr. George Shambaugh. The society presented Dr. Knight with a copy of Ballenger's Diseases of Nose, Throat and Ear with a few little book-marks, useful in the study of medicine or otherwise. After this, we spent the evening in informal discussion of our own medical problems. This has been a most valuable feature of the last three meetings of our society. It seems particularly adapted to the needs of the small society outside of urban centers. Every man dips into the spontaneous heart-to-heart talk as his inclination prompts him. He gets an inspiration that the country doctor seldom has opportunity to get anywhere else.

A. M. SHAW,  
Secretary.

### RANDOLPH COUNTY

The Randolph County Medical Society held their meeting at the Southern Illinois Penitentiary, at Menard, Ill., June 16, 1927. Meeting informally in the lobby of the prison until noon, when they were entertained at dinner by Warden Wolfner and wife, and Dr. Geo. Hoffmann.

After dinner, Warden Wolfner gave a very interesting talk on the responsibility of the people for the criminals.

Officers for the ensuing year were elected as follows: Dr. I. W. Beare, president; Dr. C. O. Boynton, vice-president; Dr. A. E. Fritze, secretary; Dr. J. F. Lloyd, on committee of censors.

Dr. C. O. Boynton's report of State Meeting held in May, was very interesting, and his talk on "General Medicine" was excellent. A vote of thanks was extended to the Warden and Dr. Hoffmann for their generous hospitality.

Dr. McKelvey, state surgeon, of Belleville, conducted a surgical clinic in the hospital at the penitentiary, for the benefit of the members present.

H. L. LE SAULNIER, M. D.,  
Secretary.

### Personals

Dr. William S. Keister, formerly health officer of Decatur, has taken a position as health officer of Prince George County, Maryland.

Dr. George W. Haan has been appointed city health officer of Decatur to succeed Dr. William S. Keister.

Dr. and Mrs. Ezra T. Goble, Earlville, recently celebrated their golden wedding anniversary.

Dr. J. F. Roach has been appointed chief surgeon at the Zeigler Hospital, Zeigler, to succeed Dr. Don B. Stewart, resigned.

Dr. Charles L. Weber assumed the duties of



health officer of Cairo, June 1, to succeed Dr. Bellenden S. Hutcheson.

Dr. Bernard Klein, Joliet, has been appointed physician to the Will County Sanatorium, to succeed Dr. John W. Krohn, resigned.

Dr. Herman N. Bundesen, city commissioner of health, received the honorary degree of doctor of science from Northwestern University, Evanston, June 21.

Dr. Herman H. Tuttle has been appointed health officer of Springfield to succeed Dr. Raymond V. Brokaw who recently resigned to accept a position as field representative of the American Society for the Control of Cancer with headquarters in New York.

Dr. Joseph C. Springer, for many years coroner's physician of Cook County, has been appointed criminologist to Chicago and Cook County, a newly created position announced jointly by the chief of police and coroner.

Dr. Robert G. Bell has resigned as Assistant Medical Director of the Oak Forest Tuberculosis Hospital, Oak Forest, Illinois, and has accepted the position as Medical Director of the Campaign County Tuberculosis Sanatorium at Urbana, Illinois.

Dr. Charles Davison, Chicago, delivered the graduating address at the commencement exercises of the University of South Dakota at Vermillion, June 6, 1927, subject, "The Prevention of Disease."

Dr. Ralph H. Kuhns of the Children's Memorial Hospital, Chicago, spoke at a meeting of the Illinois Children's Home and Aid Society, June 6, on the subject of "Respiratory Diseases of Children"; and over Radio WLS, June 7, under the auspices of the Chicago Association for Child Study and Parent Education on the subject of "Malnutrition in Children."

### Marriages

CHARLES F. HARMON to Miss Irene E. Medaris, both of Springfield, Ill., May 18.

OPAL HAMILTON LOWDER to Miss Marie E. Bollinger, both of Stonington, Ill., at Herman, Miss., April 27.

CLARENCE A. NEYMANN, Chicago, to Miss Virginia Elizabeth Hall, of St. Petersburg, Fla., May 7.

ELEY EBERT PERISHO, Streator, Ill., to Mrs. Stella Crumrine of Geneseo, April 29.

### News Notes

—The Illinois Masonic Hospital, Wellington Avenue and King Place, has dedicated a new unit of eighty beds costing about \$700,000.

—The Medical and Dental Arts Club met in the auditorium of the new building at Wabash Avenue and Lake Street, June 6, and was addressed, among others, by Dr. Herman N. Bundesen, city commissioner of health, on "Flood Control Problems of the Mississippi.

—The Chicago Tuberculosis Institute was awarded the Christmas seal publicity prize offered to cities raising more than \$100,000 in the Christmas seal sale at the National Tuberculosis Conference, recently, in Indianapolis. The last year's seal sale amounted to \$225,000.

—Dr. Frank Lee Stone addressed the Chicago Gynecological Society, June 17, on "Lipiodol and Roentgen Ray as a Diagnostic Aid in Gynecology," and Dr. Carl P. Bauer on "Comparative Study of Convalescence in the Vaginal, Supravaginal and Total Abdominal Hysterectomy in One Hundred and Fifty Selected Cases."

—The Chicago *Medical Recorder*, founded forty-nine years ago, and the *Radiological Review*, founded about three years ago, have consolidated, and henceforth will be published by the Radiological Review Publishing Company, 81 East Madison Street, Chicago, under the editorship of Dr. Harold Swanberg, Quincy, and an editorial board of physicians.

—The infant mortality rate of Illinois decreased 4.5 per cent in 1926 over the rate of the previous year, reaching the lowest point recorded in the state. Last year 9,297 babies under 1 year of age died, which was 524 less than the number in 1925. Most of the improvement in the rate occurred in Chicago where it was 66.6 per thousand births against 71.5 downstate.

—Since June 1, 1927, the laboratory of the Illinois Department of Public Health has used the Kahn test as the official serologic test for syphilis in place of the Wassermann test. The Wassermann test will be made on the special request of physicians when conditions seem to warrant additional information. This action was taken on recommendation of the advisory board after a comprehensive study of many tests.

—The Country Home for Convalescent Children at Prince Crossing near West Chicago was formally taken over by the University of Chi-

cago, June 13, at a ceremony presided over by President Max Mason, and attended by members of the board of trustees of the university and the convalescent home and by others. The home was founded in 1911 by Mrs. W. J. Chalmers after two years had been spent in raising sufficient funds. The property comprises 96 acres and buildings which were turned over to the university, as well as the endowments funds of about \$1,200,000. The institution was founded for the care, cure and education of crippled children, and at present 101 are receiving its benefits.

—The International Anesthesia Research Society presented to Dr. Arno B. Luckhardt, professor of physiology, University of Chicago, and T. Bailey Carter, D.Sc., a scroll of recognition at Washington, D. C., May 16. The scroll, signed by the officers of the board of governors, was presented in appreciation of "meritorious research in anesthesia and analgesia, and for prolonged, untiring and resultful experimental laboratory studies of the biochemistry and pharmacophysiology of ethylene, as well as such splendid cooperation of pure, with applied science, as enabled the surgeons, specialists and anesthetists of the Presbyterian Hospital (Chicago) to rapidly establish the clinical use of ethylene as a new and valuable routine method of anesthesia for the benefit of suffering humanity."

—The medical library on the first floor of the Ward Memorial Building on McKinlock Campus, which has been named the Archibald Church Library of Northwestern University Medical School, was formally dedicated, June 15, in the presence of many local physicians and alumni of the school. There are more than 22,000 bound volumes in the library, and 175 medical journals. In addition to endowment provided by Dr. Archibald Church and his wife, substantial contributions have been received from Drs. Joseph B. DeLee and Arthur H. Curtis, from Augusta Elizabeth Lehmann and from the alumni association of the medical school. Collections of books have also been received, amounting to more than 2,000 bound volumes in the last two years. There are also about 10,000 unbound volumes, pamphlets and reprints.

—Arthur I. Kendall, Ph.D., professor of bacteriology and public health at Washington University School of Medicine, St. Louis, has been

appointed professor of bacteriology at Northwestern University Medical School. Dr. Kendall was formerly dean at Northwestern University Medical School. William T. Bovie, Ph.D., Medical School of Harvard University, Boston, has been appointed professor of biophysics at Northwestern; Dr. Hamilton R. Fishback, Chicago, has been appointed professor of pathology; Dr. Harry B. Culver, assistant professor of urology; Goodwin L. Foster, Ph.D., University of California Medical School, assistant professor of biochemistry, and Dr. Stephen W. Ranson, professor of neuro-anatomy, Washington University School of Medicine, has been appointed to a similar position at Northwestern; Dr. Ranson was formerly professor of anatomy at Northwestern.

—The state department of health has divided a map of the state into three parts illustrating the typhoid mortality. The northern third had a typhoid mortality of 1.3 per hundred thousand in 1926, the central portion, 3.3, and the southern portion, 11.8. The typhoid death rate of the state as a whole, 3.2 per hundred thousand of population, was the lowest on record in a full year. There were twenty cities of 10,000 or more population and twenty-seven counties from which no deaths at all from typhoid were reported. A map prepared by the state health department for tuberculosis tells a different story. The southern thirty-four counties are again indicated in black with a death rate of 80.8 per hundred thousand for tuberculosis. The northern thirty-three counties of the state, also represented in black, have the death rate of 80.7; the central portion of the state is only traced in black lines for here the tuberculosis mortality fell to 60.4. For the state as a whole the tuberculosis death rate in 1926 was 76.3, a decrease of nearly 4 per cent over the previous year, while the general death rate for the state went up more than 2 per cent.

—The American Board of Otolaryngology conducted an examination at Washington, D. C. on May 16 and 17, and at Spokane, Washington on June 4. Of the 142 men examined at Washington, D. C. 119 were passed and 23 failed to pass the examination. In Spokane, the number passed was 46, and the number failed was 6.

The next examination will be held in Detroit on September 12, 1927. The applications for examination should be sent to Dr. H. W. Loeb,



Secretary, 1402 South Grand Boulevard, St. Louis, Missouri.

—Whiteside County Medical Society gave a dinner and reception, June 16, at the Country Club in Morrison, in honor of Dr. Dana B. Seger who is completing fifty-eight years of practice in that vicinity. Dr. Charles E. Parker, president of the Society, reviewed the early practice of medicine by the pioneers since 1839. Attorney L. R. Ramsay, son-in-law, gave the Doctor's lineage and history which included service in the Union Army before his medical course at Rush, class of 1868. Dr. David B. Penniman, Councilor of the First District, said, "We honor ourselves in honoring him who, meeting for the first time this evening, I felt at once was a rare soul and a wise counselor, in whose experience one would indeed find a rich store."

The speaker being himself from a family of physicians recognized the value of such a life, actuated by a high motive and thinking not of the remuneration to be received but of the service to mankind, in the alleviating of suffering and the combating of death. "Love," he said, "the greatest thing in the world, was here as elsewhere the compelling motive of such noble, self sacrificing lives as that of Dr. Seger, whom we all delight to honor."

—The Physicians' Fellowship Club gave their annual dinner in honor of the past presidents of the Association, Friday evening, June 24, at the Logan Square Masonic Temple.

—The address of the evening was given by Dr. Olin West, General Manager of the American Medical Association.

—Among the guests who responded to toasts were Dr. G. Henry Mundt, President of the Illinois State Medical Society, Dr. J. C. Krafft, a former trustee of the Club and Past President of the Illinois State Medical Society. Dr. John R. Neal of Springfield, Illinois, chairman of the legislative committee of the Illinois State Medical Society, Dr. John E. Koons, President of the Northwest Branch of the Chicago Medical Society, Doctors Ferdinand H. Pirnat and Warren Johnson, founders of the Club, and Dr. George A. Torrison, president. Past Presidents Doctors John J. Pflock, Frank F. Hoffman and S. M. Goldberger, reviewed the work of the Club. Dr. Chas. F. Stotz was toastmaster for the occasion.

## DEATHS

JOHN BARNETT, New Haven, Ill.; Barnes Medical College, St. Louis, 1898; aged 60; died, May 18, of cerebral hemorrhage.

SARAH E. DUNLAP, Villa Park, Ill.; Hahnemann Medical College and Hospital, Chicago, 1885; aged 79; died, May 7, of senility.

JOHN THOMAS FOSTER, Ashley, Ill.; Rush Medical College, Chicago, 1868; formerly a druggist and postmaster of Dubois; aged 86; died, May 17, of arteriosclerosis, chronic myocarditis and chronic nephritis.

HOMER VALMORE HALBERT, Chicago; Hahnemann Medical College and Hospital, Chicago, 1887; formerly clinical professor of internal medicine at his alma mater; aged 68; died, May 28, of angina pectoris.

WINFIELD SCOTT HARPOLE, Chicago; Northwestern University Medical School, Chicago, 1897; formerly assistant professor of clinical medicine at his alma mater; at one time on the staff of the Cook County Hospital; aged 61; died suddenly, May 27, of heart disease.

STEPHEN WITOLD MENCLEWSKI, Chicago; College of Medicine and Surgery (Physio-Medical), Chicago, 1902; a Fellow, A. M. A.; on the staff of St. Mary's of Nazareth Hospital; aged 60; died, March 25, of cerebral hemorrhage.

EMIL J. MERKI, Chicago; University of Illinois College of Medicine, Chicago, 1902; aged 49; died, May 24, of Hodgkin's disease.

JAMES N. MONTGOMERY, Chicago; Missouri Medical College, St. Louis, 1875; a Fellow, A. M. A.; aged 77; died, May 22, of myocarditis.

ANTON T. NADIG, Elizabeth, Ill.; University of Illinois College of Medicine, Chicago, 1902; a Fellow, A. M. A.; aged 57; died, May 24, at a hospital in Rockford, of burns received when his home caught fire.

JUDSON CAREY PANTER, Chicago; Rush Medical College, Chicago, 1870; aged 77; died, May 6, at his home in Evanston, Ill., of cerebral hemorrhage.

GEORGE O. RUTLEDGE, Danville, Ill.; Chicago Medical College, Chicago, 1877; Civil War veteran; aged 81; died, May 9, of chronic myocarditis.

JAMES M. WOOD, Moline, Ill.; College of Physicians and Surgeons, Chicago, 1903; member of the Illinois State Medical Society; on the staff of the Moline City Hospital; aged 64; died, May 2, of acute yellow atrophy of the liver.

EDWARD L. MITCHELL, Monmouth, Illinois; Rush Medical College, Chicago, 1882; Fellow, A. M. A.; member of Illinois State Medical Society, Warren County Medical Society, Fellow of American College of Surgeons, practitioner in Warren County, Illinois, for more than forty years; died at the Augustana Hospital, Chicago, June 9, two weeks after an operation for intestinal obstruction; aged 71 years, and 11 months.

WILLIAM A. HALBERT, Springfield, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1882; member Illinois State Medical Society; member of local examining board for selective service act; died, May 30, at St. Johns Hospital; aged 66.

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# Illinois Medical Journal

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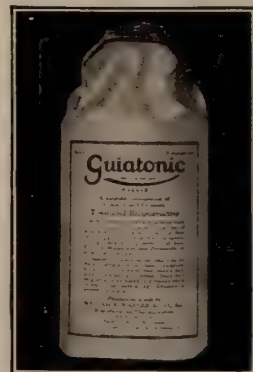
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# ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

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No. 2

## ILLINOIS MEDICAL JOURNAL

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## Editorial

### ARE PHYSICIANS PIKERS? CHIROPRACTORS CONTRIBUTED \$500 PER CAPITA TO A LEGISLATIVE POOL

Members of the state society who protest against an annual payment of ten dollars dues are referred to the fact that \$500 per capita is considered a moderate assessment by chiropractors. If physicians paid even half as much as that to put the merits of scientific medicine before the general public and especially in a legislative lobby, the result to the world at large would be incalculably beneficial.

Reliable information sent to this office asserts that in 1923 a group of thirty-eight chiropractors collected for their legislative pool the sum of \$19,000, exclusive of the regular sum for this purpose, secured from several hundred other chiropractors, and of a lesser total.

In the face of this is there lack of justice in the query, "Are Physicians Pikers?"

The statement concerning this \$500 per capita chiropractic contribution came into this office from a source no less reliable than one of the chiropractors who had contributed. He was a Palmer graduate. For years he fought the state society. Finally this Palmer graduate went to the National School of Chiropractic in Chicago. There he took an additional six months course, was graduated, examined by the medical board and passed. Solicited this year again for a contribution he refused to give a cent to the chiropractic cause. He is ready now to tell the world that it was all a mistake.

In 1923, a right hand lieutenant of the representative of the Federation of Labor openly lobbied for the chiropractors. No doubt this was due to the fact that one of the key-stoners in the chiropractic movement was once an official in the federation, and was apparently helping the labor representative as much as was possible.

Here is a beautiful illustration of one of many



angles demanding counteraction in dealings with the legislature.

It takes money to lobby even for the right. No wonder the cults and isms have a legislative walkover when man after man gives \$500 per capita, and the legitimate doctors groan about \$10 per head for dues to the State Medical Society.

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## ANTE-BELLUM PRUSSIANISM IN EXISTENCE AT WASHINGTON

HAS THE TIME ARRIVED WHEN THE PRACTICE OF MEDICINE AND PHARMACY IS TO BE CONDUCTED BY THE COURTS?

A new wrinkle in ways that make knowledge play the handmaid of assumed authority reveals itself through the new despotism to be exercised by the Bureau of Prohibition in the U. S. treasury department.

Here is a new putting on of the screws. If the squeezing of the vise keeps up, before very long there will be such a purely ante-bellum Prussianism in existence at Washington that the Declaration of Independence and the portraits of Washington, Jefferson, Hancock and the rest might just as well be turned towards the wall. The latest scheme of diabolical autocracy is to be found in the new form of application for basic permits in the alcohol industry of the country. The dark gentleman in the high timber in this blank, thrust in the face of the vast alcoholic industry on June 28 and without any previous warning, lies in the demand that all such applicants shall waive constitutional rights for the protection of person and property, if invaded by the government. The resentment to this un-American autocratic demand was well expressed at the conference in the office of the assistant secretary of the treasury, July 14, when many interested organizations were heard in protest. Speaking for the organizations requiring basic permits the following language was used:

We demand to know whether the time has arrived when the Practice of Medicine and Pharmacy is to be conducted under the supervision of the courts. This in view of recent attempts to compel applicant for basic permits to waive constitutional rights to the protection of his person and property if invaded by the government. Nothing quite so high-handed or

revolutionary has heretofore been attempted by fanatics in or out of congress.

Representatives of the medical and pharmaceutical professions and of the drug trade and flavoring extract business, and also of the leading bonding companies of the United States, were shocked at the bureau of prohibition of the treasury department in Washington, June 28, when handed a new form of application for basic permits under the provisions of "Title 2 of the National Prohibition act."

This form, if made effective, will be used for the renewal of existing permits, to become effective within two weeks. The applicant for a basic permit or its renewal is compelled, in the new form, to make a contract with the federal government in which he agrees to waive his constitutional rights to the protection of his person and property if invaded by the government in the enforcement of the law. Permits will not be granted or renewed unless he does enter into this contract with the government by using the form of application prescribed. Many things have been attempted in the name of "law and order," the "public welfare," "reform," "public health and safety," etc., since the enactment of the National Prohibition act, in 1920. Nothing quite so arrogantly despotic has been proposed by prohibition fanatics, in or out of congress, or the executive branch of the federal government, as the new form of application for basic permits suddenly flashed upon the representatives of alcohol-using professions and industries.

Not until June 28 did the prohibition bureau give the slightest notice of its intention to change the form of application for basic permits and their annual renewals. A storm of protests immediately came from representatives of all professions and industries represented at the conference. The feeling of indignation was so strong that the session of the conference on the first day adjourned without formal notice of adjournment. The representatives simply walked out.

Representatives of the protesting professions and industries, including the National Association of Retail Druggists, *were informed frankly that if they did not like the new form of application for basic permits they were at liberty to test its legality in the courts.* Counsel for the National Association of Retail Druggists demanded to know whether the time had arrived when the

practice of medicine and pharmacy had to be conducted under the supervision of the courts. He gave frank notice that if this were to be the program it was likely that the National Association of Retail Druggists and other interested associations concerned would petition the next congress to repeal the new law creating a bureau of prohibition in the treasury department, because unnecessary. The chairman of the revision committee replied that any such threat would have no influence whatever.

Harry B. Thompson, general counsel for the proprietary association, asked whether or not it was the purpose of the revision committee to make the prohibition commissioner merely a supervisory officer. The question was ignored. Counsel for the N. A. R. D. informed the revision committee that he would immediately notify the headquarters of the National Association of Retail Druggists in Chicago and suggest that the officers of the forty-six state pharmaceutical associations and all of the city and other local pharmaceutical associations in the country be promptly advised of the situation.

The organizations represented at the conference included American Drug Manufacturers' Association, the American Medical Association, the National Association of Retail Druggists, the Proprietary Association, the American Association of Pharmaceutical Manufacturers and the National Association of Manufacturers of Flavoring Extracts. Wine manufacturers, distillers of distilled spirits and representatives of bonding companies were also represented.

#### SOME PLAIN TALK AT THE CONFERENCE

Samuel C. Henry, Secretary of the National Association of Retail Druggists and a pharmacist of thirty years' practical experience, who was present at this conference, did not mince words in addressing the administrators, Prohibition Commissioner Doran, and the assistant secretary of the treasury, Seymour Lowman.

He told them frankly that if he were conducting a retail drug store today and a prohibition officer undertook to tell him how much alcohol he needed for the conduct of his business, he would soon let him know that he would not permit it and if he did not obtain all he needed he would get it if he had to go to court. Of course, Mr. Henry added, retail druggists do not

want to be compelled to go to court every time they require alcohol for medicinal purposes.

Mr. Henry regretted the fact that the average prohibition administrator could not picture a retail druggist as he actually is in rendering pharmaceutical service to the public. He reminded the administrators that they have an eye single to one thing, the enforcement of the National Prohibition act, while the average retail druggist deals with more than five thousand different items in addition to alcohol.

The druggist is serving the public in innumerable ways, including the compounding and dispensing of life saving medicines, and therefore when he fails to observe some technical requirement in the regulations, the druggist should not be dealt with arbitrarily and inconsiderately as a wilful, or deliberate, offender against the law. Mr. Henry suggested that a retail druggist should be given an opportunity to explain before prohibition administrators cite him for the revocation of his permit upon the discovery of some irregularity. Druggists should not be put to the expense of employing attorneys, appearing for trial, and perhaps suffering an injury to their professional reputation by being placed on trial, when a preliminary hearing before the administrator might clear up everything.

Mr. E. C. Brokmeyer, general attorney for the N. A. R. D., next addressed the conference. He gave the conference the difference in viewpoint of Englishmen and Americans respecting law enforcement. He said that Sir William Glyn-Jones had expressed surprise during the American Bar convention in London three years ago because the government at Washington had advertised the large number of arrests for violation of the National Prohibition act as evidence of law enforcement. Englishmen regard the effect of laws rather than a showing of law enforcement as the more important consideration. Mr. Brokmeyer insisted that it would be as unfair to regard present prohibition officers as potential outlaws because General Lincoln C. Andrews had dismissed more than eight hundred of them within the past two years as it would be to regard retail druggists as potential "bootleggers," because some had violated the law. The speaker impressed upon the administrators that they should disabuse their minds of the idea, if they had it, that the retail druggists of the United States were seeking the privilege of dispensing



spirits for medicinal purposes. This was not the fact. The majority of the druggists were opposed to handling liquor. The duty of dispensing it was imposed upon retail druggists exclusively by congress over the protest of the N. A. R. D. Mr. Brokmeyer pointed out the danger of *more and more oppressing the licensed traffic in liquor and narcotics while the unlicensed is permitted to run wild*. Mr. Brokmeyer frankly told the conference that if permittees found by experience that they were being discriminated against by the government in favor of unlicensed operators, the logical and inevitable result would be the giving up of permits and operation without government license, inspection or supervision. He also protested against the revised regulations holding the proprietor of a drug store responsible for the acts of his employees unless within the scope of their employment, insisting that the courts have held that the principal is not responsible for the act of his agent unless within the scope of his employment and that a master is not responsible for the act of his servant unless within the scope of his employment.

#### AN ELEGANT TRIBUTE TO DR. WILLIAM H. WELCH, THE CHAIR OF MEDICAL HISTORY AT JOHNS HOPKINS

The *Cincinnati Journal of Medicine* is responsible for the following editorial from the *New York Times*:

"Johns Hopkins University in establishing a chair for the history of medicine, believed to be the first of such scope in America, is emphasizing the importance of the physician's background. In no other profession, unless it be the ministry, is a background more important than in that which has to do with progress in knowledge and treatment of bodies in which there is something as Dr. Thomas Browne said, 'that can be without us and will be after us, though it is strange that it hath no history what it was before us nor cannot tell how it entered in us.' But history in the hands of physicians and surgeons and research students has been written during the three centuries since that physician who desired to be remembered only in the 'universal register of God,' wrote his 'Religio Medici.' No one in America knows that history better than Dr. William H. Welch, who is to be the first occupant of the first American chair in this subject.

"Dr. Welch has already two major achieve-

ments to his credit. In 1884 he organized the faculty of the Johns Hopkins Medical School, and in 1916 he organized the Johns Hopkins School of Hygiene and Public Health. In the first he led 'a new departure in medical education,' and incidentally trained a number of the foremost pathologists of America, besides doing important research work himself. In the second, he organized and directed the work of the first medical institution in the world designed primarily to promote research and teaching in the field of preventive medicine and public health.

"Now he enters upon a third undertaking in which the cure and prevention of disease are linked into a unity. With his unusual experience and learning, unsurpassed since Dr. Osler's death, and with a personality drawing all men to him, he comes in the autumn of his life to give of his own culture to the enrichment of those who are to carry on in his profession. Some may look upon such study as a mere ornament in medical practice; but his answer is that it is 'an asset to successful practice and to the pursuit of medical science.' It is essential to a further development of what we now have to show how we came into possession of it. He cites Dr. William Osler, his former associate, 'one of the outstanding physicians of all time,' as a man whose knowledge was 'very largely based on the history of medicine.' He might have cited also Sir Thomas Browne:

"'I could never content my contemplation with those general pieces of wonder—the flux and reflux of the sea, the increase of the Nile, the conversion of the needle to the North; and have studied to match and parallel those in the more obvious and neglected pieces of nature which without further travel I can do in the cosmography of myself. We carry with us the wonders we seek without us; there is all Africa and her prodigies in us. We are the bold and adventurous piece of nature which he that studies wisely learns in a compendium what others labor at in a divided piece and endless volume.'

"It is the history of man's exploration and discovery in the cosmography of his own self that Dr. Welch will now teach; and his own achievement is the best testimony to the value of his subject. His entrance upon this work is itself another milestone in the history of medicine in America."

## DR. PATRICK MANSON THE FATHER OF TROPICAL MEDICINE. BRITISH MIN- ISTER OF HEALTH UNVEILS A TABLET TO HIS MEMORY

A few months ago the British Minister of Health, Mr. Neville Chamberlain, unveiled a tablet in memory of Patrick Manson, "father of tropical medicine" at the Albert Dock Hospital, London, where so much of Manson's work was done. Mr. Chamberlain, in unveiling the tablet told how the discovery that malaria was conveyed by the mosquito stimulated the imagination of investigators and led to the acquisition of other knowledge. Mr. Chamberlain said that he did not think it was too much to say that the health and wealth of the whole world had been advanced and multiplied by the patient, unobtrusive labors of Manson and a few devoted and skilful workers. He doubted whether the cutting of the Panama Canal would ever have been carried through had it not been for these discoveries. As indicating the character of Manson, Mr. Chamberlain mentioned that on returning from China after many years' work there, he offered all his knowledge to Ronald Ross, who was engaged in similar investigations, and there ensued a correspondence extending over four years, that was a monument to their complete devotion to public service, and showed an entire absence of jealousy.

## FIGURES PROVE THAT FACTS DO NOT BEAR OUT CHICAGO'S REPUTA- TION FOR MURDER

Almost two dozen cities—twenty-one to be exact—have a far higher pro rata murder rate than Chicago. In the face of the fact that Chicago is an international byword for the impunity with which murder is committed, investigation reveals that out of a group of cities examined the murder rate per each 100,000 of population ranks in one instance as high as fifteen times what that rate is in Chicago.

Jacksonville, Fla., heads the list. There the death rate from murder is 75.9 per cent per each 100,000 of population, or fifteen times what that of Chicago is. Tampa, Fla., has a rate of 67.6 and there are other surprising statistics from all over the country. "Give a dog a bad name and hang him." Chicago's crime situation is not to be condoned but the state of Illinois

really should not sit silent under such a shameful accusation as that made against Chicago when it is untrue.

Bearing out this contention glance at a few figures. Dr. Frederick L. Hoffman, Statistician for the Prudential Life Insurance Company, in the *Spectator and Insurance Journal*, speaking of the twelve thousand killings in America in 1926, comments as follows: "One person in every ten thousand met a violent death in the hundred and eighteen leading cities in the United States last year. Chicago had the doubtful distinction of having the most homicides, 510; New York, a city of approximately twice the population of Chicago, had 340. In twenty-eight of the leading cities the rate was 9.9 per 100,000 population, as against 11.0 in 1925." Dr. Hoffman comments on this statement as follows: "Slight as it is, the reduction is encouraging." He comments further, "Our murder record of approximately 12,000 persons each year is a most serious indictment of American civilization, an evidence of lawlessness which has no counterpart in any other country in the world." In contrast to the wholesale killings in America we are reminded that there were only 17 murders in London in 1926, and that there were arrests in 16 of the 17 cases. An astonishing fact is that in the matter of homicides, Jacksonville, Florida, heads the list of American cities having a rate of 75.9 per 100,000 population. Tampa, Birmingham and Memphis come next on Dr. Hoffman's list.

A question worthy of a good deal of thought and study is, Why should there be 104 homicides in Jacksonville, Florida, a city of 130,000, and but two in Grand Rapids, Michigan, a much larger city. There were 75 homicides in Memphis, a city of 170,000, but only 3 in Worcester, Massachusetts, a city of approximately the same size, according to Dr. Hoffman.

Dr. Hoffman's tabulation in detail for 1926 concerns 118 American cities. The combined homicide death rate for these cities for the year 1926 was 10.1 per 100,000 population as compared with 10.5 for the year 1925. The homicide death rate increased in 37 cities and either remained stationary or declined in 81 cities. The doctor considers this an evidence of progress. No homicides were reported in 18 of the 118 cities.

"It is gratifying to note a slight decline in



the murder rate of Chicago, which in 1925 had a rate of 18.8 against 16.7 for 1926. There was also a decline in the murder rate in New York City from 6.4 to 5.7 per 100,000 population, while for the city of Philadelphia the rate declined from 9.7 to 8.6."

The cities in which the rate for 100,000 population was 18.0 or more are these:

	1926
Jacksonville, Fla. ....	75.9
Tampa, Fla. ....	67.6
Birmingham, Ala. ....	58.8
Memphis, Tenn. ....	42.4
New Orleans, La. ....	33.7
Kansas City, Mo. ....	32.3
Dallas, Tex. ....	32.0
Charleston, S. C. ....	29.7
Nashville, Tenn. ....	29.2
Mobile, Ala. ....	28.4
Louisville, Ky. ....	26.7
Houston, Tex. ....	25.8
Detroit, Mich. ....	25.3
Sacramento, Calif. ....	21.8
Pueblo, Colo. ....	20.5
Kansas City, Kans. ....	18.8
St. Louis, Mo. ....	18.6
Cincinnati, O. ....	18.2
Winston-Salem, N. C. ....	18.1

Why should Jacksonville have five times the number of human killings to Chicago, on a per capita basis?

Of the large cities Boston has the lowest homicide rate. An item worthy of more than passing comment is the fact that the larger cities have not proportionately the most murders.

Dr. Hoffman gives the underlying cause of the murder tendency as the enormous increase in wealth. We quote his comment on this phase as follows: "Our enormous increase in wealth is in itself one of the underlying causes of the murder tendency. Temptation to murder as well as to less violent crimes increases on every hand. Methods of murder are becoming more refined, more subtle and more difficult of detection. It is unquestionably true that murder in this country has become an established trade on the part of many. Police protection should not be in proportion to population, but in proportion to wealth and the accumulation of property. The best hope for the future lies in better law enforcement, in speedier trials, and in sentences more appropriate to the nature of the crime committed."

#### THE SCIENTIFIC SERVICE COMMITTEE REPORTS PROGRESS

A meeting of physicians representing the various Councilor Districts was called on July 21.

Those present were Doctors E. E. Perisho of Streator, H. C. Blankmeyer of Springfield, I. H.

Neece of Decatur, C. E. Williams of Rock Island, T. E. Kinley of Rockford, Harold M. Camp of Monmouth, Charles J. Whalen, William C. Danforth and James H. Hutton of Chicago.

It was the opinion of those present that more programs on obstetrics should be presented before county and branch medical meetings and at the State meetings.

Dr. Perisho and Dr. Neece stated that there was no subject of more interest than that of obstetrics and that programs covering this subject were more popular than any others. The chief difficulty in putting on such programs seemed to be the fact that many secretaries and program chairmen of county societies do not know where to obtain speakers on obstetrics.

After discussing just how the subject was to be brought before medical societies in a satisfactory way, Dr. Danforth said that he would be willing to work with Doctors David S. Hillis and N. Sproat Heaney on some outlines presenting the latest scientific methods which would be furnished physicians asked to speak on obstetrics. With such an outline the physician could prepare his talk and thus bring to medical societies the latest scientific information plus the knowledge gained from experience.

It was agreed that such programs had better be presented by men from outside the county because most men are rather timid about presenting papers before their own societies.

Dr. Hutton reported that a start had already been made in preparing a list of speakers on whom the various societies might call for such programs. It seemed that counting in the fifteen or more physicians in Chicago who were already prepared, that a very satisfactory list could be compiled of physicians throughout the state and from cities in Missouri and Iowa which are close to the border line. Dr. Perisho suggested that such a list be sent to the county secretaries.

#### A CORRECTION

#### THE EDUCATIONAL COMMITTEE SERVED SEVENTY NOT SEVEN COUNTIES

On page 4 of the July issue of the JOURNAL there appeared an article "Work of the Educational Committee from January 1 to May 12." In the first paragraph a typographical error was made as follows: "Seven Counties Have Been Served, etc." This should read Seventy Coun-

ties in the State Have Made Definite Use of the Services Offered by the Educational Committee during these four and one-half months."

## THE CLINIC SITUATION FROM THE STANDPOINT OF THE ILLINOIS STATE MEDICAL SOCIETY

### A STATEMENT OF POSITION RELATIVE TO FREE CLINICS AND PRE-SCHOOL CHILD EXAMINATION

In December, 1924, the council of the Illinois State Medical Society made a declaration of principles relative to conducting clinics in Illinois.

Preamble: Definition of clinic.

For the purpose for which this declaration is made, the word "clinic" shall be defined and classified as follows:

1. A free clinic for the benefit of the indigent poor. These clinics shall be under direction of, or by consent of the local county medical society. Physicians shall give their services gratis and to this service only the indigent poor shall be entitled.

2. Clinics for the benefit of the profession. These clinics shall be either under the direction of, or by the consent of the local medical society. The prime object of these clinics shall be for the instruction and guidance of the physician and to which he may bring his private patients.

(Physicians conducting clinics of any nature must conform to the same ethical rules as physicians in private practice and will be held accountable for their conduct by their local county society—see Section 4 and 8, Principles of Medical Ethics of the A. M. A.)

Each local Society must decide as to the policy of its clinics, make its own rules and see that said rules are enforced.

*Suggestions:* 1. The Illinois State Medical Society discourages, and the local county medical societies should discourage the use of the word "clinic" for any other purpose than those mentioned in the declaration of principles, referring principally to the use of the word "clinic" by any single physician, or group of physicians in private practice.

2. The Illinois State Medical Society should have supervision over all so-called "Baby shows" or "Baby Conferences," held in the State of Illinois. These shows or conferences should be un-

der the direct supervision of the local county medical society, in the county where these conferences are held.

3. While it is not deemed necessary to have the teaching clinics of medical schools under the direction of the local county medical society, we do believe that all medical schools should use the utmost discretion in the selection of their cases, thereby eliminating all these cases, except those of the indigent poor.

4. As it must be decided who are the "indigent poor," we believe that a basis of discrimination can be set up on two points:

1. Income.
2. Dependents.

This was presented before the House of Delegates at the Annual Meeting in Quincy in May, 1924, and unanimously approved.

At the 1927 Annual Meeting of the Society in Moline this same matter was discussed under resolution number 3, headed "Parent-Teacher Associations." (See minutes of House of Delegates, July, 1927, ILLINOIS MEDICAL JOURNAL, beginning on page 23).

Under this discussion, it was unanimously shown that the Illinois State Medical Society believes that in the Pre-school child examination, the children should be examined by the family physician, in the office and not in groups, in the form of a "clinic." The physician is entitled to a fee for this service in all cases where parents are able to pay. The "indigents" are considered to be those who receive "charity" from some other charitable organization. After much discussion, it was voted to refer the question to the council and to the Educational committee for further consideration. A motion was passed as follows: "That the House of Delegates frown upon the practice of free clinic examinations of pre-school children and advises the county medical societies through the secretary, of this action."

## INDUSTRIAL EYE INJURY PLAYS MINOR ROLE IN BLINDING CONDITIONS

GLASGOW, SCOTLAND, FURNISHES FIRST COMPREHENSIVE SURVEY OF INDUSTRIAL CITY AND REVEALS INTERESTING NEW FACTS

According to Susa P. Moore of Chicago a study of blinding conditions of the eye recently



made in Glasgow, Scotland, by Dr. Freeland Fergus has more than fulfilled its original purpose of furnishing Dr. A. K. Chalmers with essential data for intelligent administration of the Blind Persons Act in the South-West of Scotland. It has resulted in a report that is a compelling brief for the place of the ophthalmologist in industrial medicine. It has shown that the best program for the prevention of blindness is a public health program that effectively combats the more common infectious diseases, particularly syphilis and measles, and it has shown that injuries to the eye rank fourth in importance as a cause of blindness, with neglected puncture wounds and induced sympathetic ophthalmia as the greatest single cause of disaster among the injury cases.

The study of blindness in Glasgow represents an admirable organization of facts and uses a survey technic that is worthy of wide use in industry. The report covers 1,206 adult blind persons who constitute the city group of a known 1,655 blind persons registered throughout the district. These persons were studied separately because it was desired to distinguish between causes of blindness operative in urban and rural communities and because Glasgow is so distinctly an industrial community it was thought that the facts brought out would have a particular bearing upon industrial hygiene. On the basis of the report the Joint Committee for the South-West of Scotland reported very fully on the various trades and occupations in relation to injury to the Home Office and the Mines Department, in whose hands the measures required for the prevention of industrial accidents very largely rests. Six great groups of causes were examined: (1) Inherited and congenital conditions; (2) infections; (3) injuries; (4) errors of refraction; (5) various; and (6) cause unknown, or not definitely ascertainable. In 32.83 per cent of cases the cause was unknown; 23.04 per cent were due to infectious disease (17.49 per cent to venereal diseases, and the surprisingly high percentage of 2.90 to measles); 18.25 per cent were due to injury; 4.48 per cent to various causes; and 3.57 per cent to errors of refraction.

The inquiry revealed the unexpected result that the accidents of civil life, to which children are especially liable, caused twice as many cases

of blindness as did occupational injuries. The figures for blindness resulting from occupational injuries were such as to reflect great credit on employer arrangement for the prompt treatment of injuries to the eye. It is a particularly interesting feature of the report that 65.4 per cent of blinding accidents occurred in civilian life, and only 34.6 per cent in the course of occupation. The civilian accidents occurred chiefly among children. More than half of these conditions arose before the age of fifteen. The nature of civilian accidents was greatly varied, due chiefly to "snowballs, cricket balls, stones, glass, blows with a fist, falls, etc." The structural alterations associated with civilian and industrial accidents were as follows:

	Civilian	Industrial
Corneal Opacities .....	6	10
Iritis .....	8	4
Sympathetic Ophthalmia .....	71	22
Dislocation of Lens .....	4	2
Cataract .....	3	3
Separation of Retina .....	8	..
Optic Nerve Atrophy .....	23	..
Both Eyes Enucleated .....	2	..
Tuberculosis of the Bulb .....	9	12
Total .....	134	60

The report declares that high frequency of sympathetic ophthalmia among civilian groups may be attributed to the characteristic delay in seeking medical treatment in the case of children. The chance of a child developing blindness following an injury is at least twice that of an adult. It is much greater than that of an adult injured in the course of occupation.

Interesting confirmation of this is found in an earlier statistical review of patients seen in the Ophthalmic Institute of Glasgow. Of these 70.7 per cent were occupational in origin, and 29.3 per cent non-occupational. These figures, it will be noted, are roughly reciprocal of those previously quoted in regard to blindness, namely 65.4 per cent in civilian life, and 34.6 of occupational origin. No children under 15 years of age receive occupational injury, which makes still more impressive this confirmation of the preventive value of prompt treatment. Penetrating wounds in particular, however slight, require competent supervision. One-third of cases of industrial injury and more than one-half of civilian injuries suffered this complication.

The report is less comprehensive with regard to errors in refraction, but it is pointed out that 38 cases of blindness were due to extreme shortsightedness, and 5 to extreme long sight. Shortsightedness in particular may be of a pernicious

type, associated with serious disease inside the eye.

Two other recent British studies elaborate more fully upon the use of glasses to prevent undue eye strain in industry. N. Bishop Harman, ophthalmological surgeon to the West London Hospital, has tabulated several thousand cases serially in order to discover the most common eye conditions to consider in an eye hygiene program. He declares that senial cataract and lens and fundus changes induced by certain trades point to the possibility of prevention of excessive change by the correction of high errors in refraction. Tired eyes, sore eyes, and then permanently defective eyes are in direct sequence, he states. Men with high errors of refraction or of muscle balance should be diverted from close work, he says. There is a wide difference between sedentary and manual workers. The outstanding common occurrence among manual workers is sudden damage to the eye. He emphasizes the necessity of suitable goggles in dangerous trades and is particularly insistent in declaring the dangers of dirt. Any foreign body may be septic. Its removal should be followed by irrigation. Older workers, who may have a chronic slow, inflammation, require particular care.

The British Medical Research Council has studied one occupation, that of linking in machine made hosiery, with a view of reducing accommodative work of the eye by the use of glasses. At least 80 per cent of the work of linkers requires the worker to be from five to eight inches from his work in order to see. All errors in refraction were corrected in the group of linkers studied, and they were given from 0.75 to 1.75 diopters in addition to produce the sharpest possible vision at the point desired and so reduce the long periods of accommodation required in this process. In every case the subject was able to increase his rate of work and his fatigue was reduced. In fitting these glasses, no effort was made to focus the eyes more sharply, but the report suggests that a prism might be of further use.

The importance of the British Medical Research Council formulations regarding the physiology of vision is appreciated when it is considered that more than six hundred separate studies made during recent years are thereby correlated.

The rules of eye hygiene growing out of this study will be evolved with the usual British thoroughness. Such rules, it is conceived, could immediately become effective among insured workers at least. This would affect 113,000 workers in the state of Illinois alone. Meanwhile, pending such universal application of ophthalmology in the interest of workers compensation awards in Illinois during 1925 were made to 2,309 injuries to a single eye aggregating \$587,623; and to 67 injuries to both eyes, amount \$33,041. In the last group the average disability period was 22 days and the average cost per case \$493. Payments for permanent total loss of a single eye accounted for another \$11,049, and the loss of both eyes for \$4,369.

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Note: The History should be in every public and private library as well as in every doctor's office. This History will help materially in re-establishing the doctor to the status he formerly occupied in the estimation of the public.

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(See also advertising page 37)

CLINICAL CONGRESS OF PHYSICAL THERAPY AND SIXTH ANNUAL MEETING  
AMERICAN COLLEGE OF  
PHYSICAL THERAPY

The American College of Physical Therapy announces that plans have been completed for its 1927 Clinical Congress of Physical Therapy and 6th Annual Meeting, to be held at the Hotel Sherman, Chicago, October 31 to November 5.

The program is extraordinary in character. The first three days are to be devoted to a school of instruction. For this purpose the country's most prominent clinicians and teachers have been selected and intensive fundamental and clinical training will be given. There will be one day of sectional meetings, the following distinct sections being represented: 1. Medicine, Diagnosis, Pediatrics and Endocrinology; 2. Surgery, Gynecology, Urology, Orthopedics; 3. Eye, Ear, Nose, Throat, Oral Surgery.

The fifth day of the Congress will be devoted to a Joint Session. Numerous special addresses by some of the foremost leaders in medicine will be offered. These will be of general interest to all whether in one specialty or another. The closing day will be given over to hospital and dispensary clinics.

Inasmuch as physical therapy has made such

rapid strides in the past few years, a gathering such as this is of vital interest to every practitioner and specialist. The program in itself is attractive but additional features in scientific and commercial exhibits, demonstration clinics, small group conferences, etc., will help to make this congress an unusual event.

Physicians in good standing in their county societies are eligible to attend as are also technicians and doctor's assistants properly vouched for.

Those contemplating attendance are urged to enroll by mail as early as possible. The fee for the instruction classes is \$10.00 payable by all whether fellows of the college or not. Non-fellows of the college must pay in addition a registration fee to the assembly \$5.00. Send for program and information to Chairman, Convention Committee—

American College of Physical Therapy,  
Suite 820, 30 N. Michigan Ave.,  
Chicago.

A MIND CURE REQUIRES NO FAITH

Henry James compared mind and faith cures, and concluded that a mind cure requires no faith, while a faith cure requires no mind.

Christian Science, that is far from Christian as defined by theologians, continues to delude individuals. Its so-called "healers" or "practitioners" by their methods that are far apart from science and the scientific are causative factors in hastening death or condemning to permanent disability and suffering those whom they are able to induce to employ them. As the people become educated in health laws of right living, the factors that actually cause disease and how disease may be prevented, this "Christian Science" imposition will cease to exist as one of our great American fallacies. If these "healers" would but ascertain the common laws of physiology and physiologic function, possibly some of them might desist. What interesting factors would be revealed could they but be psychoanalyzed.—*J. Mich. M. S.*

SPECIALISM DATES TO 500 BEFORE CHRIST  
MEDICAL SPECIALISM IN THE DAYS OF HERODOTUS  
(484-425 B. C.)

According to Wells,<sup>1</sup> Herodotus was born in 484 B. C., and thus belongs in the fullest sense to the "great" period of Greek history. He was among the first writers of critical and intelligent history, and is sometimes referred to as the Father of History.

Obviously, the condition of human beliefs and opinions fall within the field of history as indicating contemporary thought, and it is therefore interesting to direct attention to a recent edition of Herodotus<sup>2</sup> in which he comments on medical specialism during his period, as follows:

The practice of medicine is so divided among them, that each physician is a healer of one disease and no more. All the country is full of physicians, some of

1. Outline of History, H. G. Wells, 1921.

2. Herodotus, with English translation by A. D. Godley, London, William Heinemann.—*A. M. A. Federations Bulletin*.

the eye, some of the teeth, some of what pertains to the belly, and some of the hidden diseases. \*

The first report of the Commission on Medical Education contains an analysis of specialization in medical practice in the United States in 1925, showing that there are 15,417 physicians limiting their practice to a specialty in this country. If this is taken as an indication of medical progress, we have not advanced a great deal since the days of the ancient Greeks.

#### THE GENERAL PRACTITIONER IS, AND MUST REMAIN, THE BACKBONE OF THE MEDICAL PROFESSION

The General Practitioner's place in the great army of physicians, waging warfare against disease, has been aptly likened to that of the infantryman in the military establishment. He is, in fact, the doughboy of the profession, and on his efficiency and well-being, depends the morale of that profession. He must therefore realize the responsibilities which rest upon him. He must use the five senses in his possession and such special instruments as he can command, he must reason logically to a conclusion and apply appropriate remedies. To do this is as truly scientific in method as the work of the laboratory research man.—*George C. Davis, Lycoming Co. (Pa.) Bull.*

#### UNITED STATES HOMICIDE DEATH RATE TWELVE TIMES THAT OF ENGLAND AND FIVE AND A HALF TIMES THAT OF CANADA

##### NEW ENGLAND HAS FEWEST HOMICIDES IN INDUSTRIAL POPULATION

The Statistical Bulletin of the Metropolitan Life Insurance Company reports that the *homicide* death rate of the United States per thousand of population is nearly twelve times that of England and about five and one-half times that of Canada. Although this includes our colored population, among whom the rate is much higher than for the white population, even if restricted to white persons the homicide rate of the United States would still be almost seven times that for England and Wales. The rates for the years 1923, 1924 and 1925 were the highest ever recorded among the industrial population. Although the figures compiled for the greater part of 1926 indicate a decline in the rate for that year, such declines from year to year in the past have proved to be only transitory and were followed in subsequent years by considerable increases. The homicide rate for the industrial population has shown a slight upward tendency during the sixteen year period 1911-1926, while the suicide rate has been almost halved.

The highest homicide rate among the white policyholders in the year 1925 was for the cities of Arkansas; then came in order Tennessee, Florida, Alabama, Nebraska and Oklahoma. The best record in the white industrial population was in Maine, and then in New Hampshire, Vermont, Delaware, Colorado and Oregon. Not a single homicide was recorded among the white policyholders in any of these six states, although 470,300 white persons were exposed to risk in them. The

four Canadian provinces, New Brunswick, Manitoba, Saskatchewan and Alberta did not record a single homicide among their urban industrial population during 1925. In the colored industrial population the enormously high death rate of 115.2 per hundred thousand of population was recorded for Oklahoma; 78.2 for Minnesota; 66.1 for Michigan; 59.9 for Nebraska; 56 for Missouri; 53.9 for Illinois, and 50.5 for Florida. The lowest death rate for colored as well as for white policyholders was in New England. Considered by broad geographic regions, the highest homicide death rate in the white urban industrial population was 8.4 per hundred thousand in the East South Central region. The next highest rate was 8.2 in the West South Central states, and the highest rate in the colored industrial population was 52 in the West North Central states, followed by 49.7 in the East North Central states.—*The Journal of the A. M. A.*

#### WHEN SURGEONS BELONG TO LABOR UNIONS

When the White Collar union is fully organized, union doctors will leave operations unfinished should the whistle blow for quitting time before the victim has been sewed up; the Local or Throat Doctors will not be allowed to perscribe for any ailment above or below their territory and they will have to be accompanied by Mouth Doctors, who will be the only ones allowed to open and close the patient's mouth. Union undertakers will not be allowed to bury a non-union man; union grave-diggers will not dig his grave, and no union horse will pull his nonunion remains out there.

Union lawyers will refuse to try cases before non-union judges. Prisoners will refuse to be hanged by nonunion sheriffs. Three juries will be necessary for a case, as each jury will be allowed to serve only an eight-hour shift.

Union stenographers will write only such letters as have been approved by the riding delegates. All words of more than two syllables will be barred and each letter must not be over three paragraphs. Union bank clerks will refuse to bother with anything smaller than \$100 bills and riding delegates will collect 10 per cent of all moneys counted. Babies will have to take out cards in the Babies' union under penalty of being deprived of their milk, and will be allowed to play only with dolls that are members in good standing of the dolls' union, each having the union label.

But we fear the White Collar boys are wasting their time; their motto will always be, "United we stand for it—Divided we fall for it."—*J. P. McEvoy in Chicago Journal.*

#### UNDER MATERNITY BENEFITS EVERYBODY SEEKS ASSISTANCE

Henry J. Harris writing about certain "maternity" benefits systems in certain foreign countries, "U. S. Department of Labor, Children's Bureau Publication, No. 57, p. 20, that in Australia (according to certain statistical sources quoted) "in the four calendar years, 1913 to 1916, there were 539,994 live births reported



and 539,255 births for which maternity allowances were paid," and that it costs in the same country (Ibid. p. 19), "when there were no extraordinary expenditures for war purposes, three per cent of the government's expenditure was devoted to maternity allowance." Surely needy maternity and child welfare cases can receive proper charitable attention, private or public, without such general pauperizing legislation.

The fact that local taxation (calculated to raise \$1,000,000 in the county or \$650,000 in Chicago) was being urged upon Illinois for an object that was not demanded by any of the public or private child welfare or charitable agencies, merely on the grounds that Illinois should be able to get a very little share out of a prospective "pot" into which she would be required to pay a great deal, caused the Civic Federation, first, to oppose the depending Federal Maternity legislation on the grounds that it tended to stimulate unnecessary local expenditure, and, second, to inaugurate an investigating into the whole field of federal "aids" to State and Local governments.—*Civic Federation of Chicago, Bulletin No. 43.*

#### THE APPARENT EXCESSIVE COST OF SICKNESS MAY LEAD TO STATE MEDICINE

##### THE BUSINESS OF MEDICINE

It is beginning to be felt that the business of the practice of medicine is becoming unusually burdensome to the profession. As expressed by some, the manufacturers of physicians' supplies are demanding excessive profits and that the physician must take into account this fact in rendering bills. Not a little complaint is made by the public of the size of the bills and no doubt this feeling lies at the foundation of many malpractice suits, especially counterclaims. But what can the doctor do? He must purchase books, he must secure the most recent instruments for diagnostic purposes and means of treatment, he must also have a car that people may respect and approve. All these are essential to secure a professional business and if the doctor does not transfer a part of these added expenses to the public he is himself liable sooner or later to become a charge upon someone. There are not a few who predict that the apparently excessive cost of sickness will in time lead to the state taking over the practice of medicine in some form. We all have a feeling that state control of medicine will reduce the position of the doctor to the servant status. No one, not even the sick public, would desire this; it would cause him to lose faith in the wisdom of his physician. We may listen to the complaints of the public on reading an interesting article, not long published, in the Atlantic Monthly on the "High Cost of Babies," in which it was said that her mother's babies cost, for the doctor \$10, for the nurse \$5 a week or \$10 for the confinement period, and it was costing her for the first baby \$50; for the last, \$500. The writer could not understand why this was so. In the Long Island Medical Journal a patient was interested to know why she was charged \$50 by a physician while a neighbor was charged \$35 for a similar service.

These are questions the public are asking. On the

other hand the doctor is asking why his margin of net profits are so small. Have we among us men of such wisdom as to make these questions clear? Will it be necessary for the state to do it for us?—*J. Iowa S. M. S., April, 1927.*

### Correspondence

#### DOINGS FROM COUNCILOR DISTRICTS

Springfield, Ill., July 12, 1927.

To the Editor:

The two enclosed reports explain themselves, and I am hoping to have a short report from each of the counties in my district as to their activities, to be given to you for the Journal every month or two. This is for the purpose of stimulating interest in my district, also to get them in the habit of being interested in and reading the Journal.

S. E. MUNSON, M. D.,

Councilor, Fifth District, Illinois State Medical Society.

Clinton, Ill., July 5, 1927.

Dear Doctor Munson:

I think your idea of monthly reports of activities of the different societies in your district is a very good one, and I can see where it will create more interest in County Society activities in this District.

The DeWitt County Medical Society has gotten back on its feet again, after a long serious illness, and is up and doing things now, having interesting monthly programs, a part of which at least is furnished by our local society.

On June 17 we had a very fine meeting, with Dr. Channing Barrett of Chicago, who spoke on "Extra-uterine Pregnancy." Dr. Barrett is a most interesting speaker and was well received. Our Society deeply appreciates Dr. Hutton's committee for sending Dr. Barrett and Dr. Carr.

At our meeting this month the program will be given by the local society.

W. R. MARSHALL,

Sec'y. DeWitt County Medical Society.  
Bloomington, Ill., July 6, 1927.

Dear Doctor Munson:

A goiter survey of the students of the Normal School was made by our Society under the direction of the State Department of Public Health, in January.

Recently we have had one of the nurses from the State Department at work under a committee from our Society to impress upon the moth-

ers the importance of breast feeding. We believe that this work has been of some value to the physicians, as she is able to keep the patient in touch with her family doctor. It is hard to estimate the results which will follow from an education campaign of this kind. We have no statistics to offer at the present time.

RALPH P. PEAIRS,

Sec'y. McLean County Medical Society.

Following are the statistics taken from the Department of Public Health of the Goiter Survey, made by Dr. Cook, of the Division of Child Hygiene:

	Boys	Girls
Total number examined.....	341	1158
Normal Thyroids .....	221	675
With Thyroids .....	120	483
Per cent with Thyroids .....	.35	.42
Degree of Enlargement:		
Type I .....	82	379
Type II .....	35	81
Type III .....	3	22
Type IV .....	..	1

## ST. MARY'S HOSPITAL (QUINCY) WEEKLY CLINICAL CONFERENCE\*

Quincy, Ill.

For some years several Quincy physicians have desired to inaugurate a regular clinical meeting for the presentation to the profession the clinical material of the community. Several meetings were held to consider the formation of a Clinical Society to take over this work, but for various reasons we were unable to get it started. To create enthusiasm for the plan we invited physicians from cities where regular clinical meetings were being conducted successfully to address the Adams County Medical Society on the subject, but the general membership were still loath to accept the wisdom of such a plan.

In January of this year the author was elected president of the staff of St. Mary's Hospital of Quincy. In appreciation of the honor he gave a dinner to the staff members at his home, and on the occasion proposed that the staff of the hospital inaugurate a Weekly Clinical Conference in the same manner as had been advocated by Dr. G. Henry Mundt, of Chicago, President of the Illinois State Medical Society.<sup>1</sup> The suggestion immediately appealed to nearly everyone present. It was further discussed and adopted at a later staff meeting. On Saturday, February 19th, the first conference was held and 31 doctors were

present. A questionnaire distributed at the close of that meeting showed that every one present was highly pleased with the idea and 90 per cent approved of the day and hour suggested when the meetings should be held (Saturdays at 8:00 A. M.).

Meetings were held regularly each week until June, when we disbanded for the summer. There have been 15 meetings to date. The maximum attendance has been 32 and minimum 20, making an average for each meeting of 26.1 per cent. They last one hour and begin and end promptly. The programs have largely been contributed by members of the staff of St. Mary's Hospital, but any physician doing work in St. Mary's Hospital is privileged to make presentations. The programs are all clinical. Formal papers are barred. What we aim to present is interesting cases, demonstrations, case reports, etc., and an endeavor is made to present the patient whenever possible. All the meetings are held at the hospital, but it is not necessary that the patients be in the hospital. In fact many patients shown have been treated in other institutions—or perhaps never were treated in a hospital at all.

Physicians are urged to volunteer presentations, but as a rule they have to be "asked." The officers of the staff are the committee in charge of the conference and they arrange the program, etc. As a rule three presentations make an ideal number of a one hour clinic. Liberal discussions after each presentation are invited. Post card notices detailing the program are sent to every ethical physician in the county on Thursday of each week and posted on the hospital bulletin board. We insist that the program (for each week) be in the hands of the committee by the Tuesday morning preceding the meeting. There are no dues of any kind connected with the conference, the hospital paying the only expense, that of mailing the post card programs each week.

Up to date the physicians of Quincy have thoroughly enjoyed this Clinical Conference. This is best proven by the steady attendance record. Doctors will not get up early to spend an hour in this manner, week after week, unless it proves profitable to them. The Clinical Conference of St. Mary's Hospital is a complete success and fills a long felt need in this community.

HAROLD SWANBERG, M. D.

731 Hampshire Street.

\*This was written at the request of Dr. G. Henry Mundt, who urged that our experience might be of interest to others who were considering the adoption of the hospital clinical conference idea.

1. Mundt, G. H.: Weekly Clinical Conference, Illinois M. J., 50:467, Dec., 1926.



## Original Articles

### NASAL ACCESSORY SINUS DISEASE A SURVEY OF AVAILABLE TREATMENT METHODS WITH SPECIAL REFERENCE TO PHYS- ICAL THERAPY\*

A. R. HOLLENDER, M. D.

Attending Otolaryngologist, Lutheran Memorial and American Hospitals.

AND

M. H. COTTLE, M. D.

Attending Otolaryngologist, Illinois Masonic Hospital, Attending Ophthalmologist Lutheran Memorial Hospital.

CHICAGO

Physicians who are practicing in fields other than rhinology are now more than ever alert in recognizing pathological conditions in the nose and appreciate better the role of sinusitis in generalized infections and systemic disorders. The internist and the pediatrician particularly are frequently called upon to determine the source of some latent infectious process. Because of this, greater attention is being directed to obvious and obscure nasal foci, and many clinicians and investigators have directed their best efforts to a study of the etiological factors and improved methods of treatment.

*Etiologic Considerations.* The most important factor in the causation of nasal accessory sinus disease is an interference with normal aeration and drainage of the sinus involved. This may be due to inflammatory processes or mechanical obstructions in the nose, such as septal spurs and deviations, polypi and hypertrophied turbinates. Extension of disease by contiguity through the nasal membranes or teeth is also of common occurrence.

In reviewing the etiology of nasal accessory sinus disease one must recall also its prevalence, concurrently or as a sequela to many systemic disorders, especially those in which acute respiratory involvement is of great significance. Influenza in the adult and the exanthemata in children are the most important diseases falling in this class.

Interesting indeed are the findings of Darling who observed acute inflammatory changes in the sinuses, due to the pneumococcus, in more than 90 per cent. of a series of pneumonia cases in which post mortem examinations were performed. Darling, therefore, concluded that the

portal of entry of the pneumococcus in most instances is an accessory nasal sinus, the mucous membrane of which is probably fitted for the reception of the pneumococcus by an antecedent influenza or rhinitis.

Some investigators have isolated pneumococci from the middle meatus of the nose of pneumonia patients. Felty and Heatly demonstrated this finding in sixteen cases of lobar pneumonia. Seven of these gave definite roentgenologic evidence of sinus disease. These workers as well as others engaged in similar studies are as yet doubtful whether the paranasal sinusitis precedes, or develops concurrently with the lobar pneumonia.

There are several distinct processes by which the mucous membrane of the accessory sinuses may become diseased. Skillern summarizes these under six headings thus: 1. Through direct infection of the healthy sinus by pathogenic bacteria. 2. Through extension of inflammation from neighboring parts. 3. Through the blood and lymph channels. 4. Through traumatism—exposure to cold, sea bathing, auto riding, etc. 5. Through foreign bodies. 6. Through contamination from the pus of overlying sinuses.

Recent observations by Dean and his associates on the influence of vitamin deficiencies in producing respiratory infections in infants and young children are now of considerable interest and must be borne in mind when dealing with this subject. These observations have been made on animals and confirmed in clinical practice. In this connection, also, the relationship of endocrine balance and the metabolism of the body as a whole are pertinent etiologic factors.

Unlike other parts of the body the nasal accessory sinuses present certain problems which are dependent in a large measure on the anatomic characteristics present. Among these are the number and position of normal and accessory ostia and the presence of bony septa within the sinus.

*Local Symptoms.* The two cardinal signs of chronic nasal sinusitis are pain and a colored nasal discharge. The former is commonly present, but a profuse nasal discharge is quite commonly absent. Pain may be localized over the sinus but is more often referred to other parts of the head. Thus an antrum infection may produce pain within the eye of the same side. Sphenoid and ethmoid disease often produce pain

\*Read before the North Shore Branch, Chicago Medical Society, May 8, 1927.

within the head or in the occipital region. The headache may be continuous or intermittent. It is usually described as a dull, heavy ache or fullness in the head. If the frontal sinuses are affected this ache may be supraorbital. At times,

The symptoms of acute sinusitis are too well known to detail. They vary according to the severity of the attack. The headache or pain and tenderness over the frontal or maxillary sinuses are characteristic. The nose is at first blocked and little or no ventilation is possible. Later the discharge may become blenorrhagic. Systemic symptoms, malaise and fever are common.

*Systemic Effects of Nasal Sinusitis.* The systemic symptoms may be due to the sinus infection itself or to secondary affections, the most common of which are in the bronchial tubes. The bronchial mucosa is constantly reinfected from post nasal dripping. The result is a chronic bronchitis.

Among the more common systemic conditions



Fig. 1. Application of radiant heat-light to the head and face for acute sinusitis.

however, the headache is indefinite so far as situation is concerned.

Patients complain of recurrent colds of long duration. The throat is dry and parched, a pathognomonic symptom of sinus infection.



Fig. 2. Modified diathermy.

which occur with sinus disease is asthma. Numerous cases are on record. It cannot be disputed that there is a direct relationship between asthma and nasal infections, nor can it be denied that many asthmatics are cured by the eradication of existing sinus involvement.

The deleterious effects of sinus disease on the body in general is now thoroughly recognized. It can therefore be stated that sinusitis plays as great a rôle in systemic disturbances as the tonsils, the teeth or other foci in the body, apparent or obscure.

*Pathology.* Important and interesting are the pathological changes which occur in the mucous membrane of a diseased sinus. This phase of the subject could be dealt with at great length, but time will permit only of some brief remarks.



The changes vary with the degree of inflammation and the duration of the infection. The type of infecting organism and the drainage conditions will also influence the extent of the tissue changes. In many instances resolution takes place by the absorption of the exudate within a few weeks. When such is not the case, the inflammation is transformed from the catarrhal to the purulent type, and now if resolution is interfered with, permanent chronic changes in the mucosa occur. These include the formation of scar tissue and polyps, and what is most important is the replacing of the normal ciliated epithelium by a low columnar or squamous type.

Pus is not always present in a diseased sinus. It has been noted by careful observers and stated by us in earlier communications that many sinuses in which there are only hyperplastic changes, often give severe primary or secondary symptoms or both. This has been confirmed when operation was performed. Again, irrigation of the antrum, for instance, frequently fails to show the presence of pus in the return fluid. One or two things may be true. Either no pus is contained in the cavity, or the secretion is of such consistency that it cannot drain through the antrum trochar or through the natural antral ostium.

*Available Treatment Methods.* Until quite recently the available treatment methods for acute sinusitis consisted chiefly of shrinkage of the turbinal bodies, lavage of the nasal cavity with hot solutions, the use of contact heat from hot water bottles and the administration of opiates or coal tar products for the relief of pain. Systemic measures such as purging, rest in bed, restricted diet and proper hygiene have been and are still helpful adjuvants.

Suction is resorted to, and often also, in antrum infection, irrigation of these cavities is performed. Resolution frequently occurs either during the acute stage or shortly thereafter. If, however, resolution does not occur and the disease lapses into chronicity, a difficult problem presents itself. Conservative treatment fails and radical operative procedures occasionally become necessary. The fact that post-operative results are frequently poor has taught many rhinologists

to be reluctant in regard to radical surgical intervention, and doubtless many more would be equally so, if some form of conservative treatment could be substituted which would offer improved results. When the indication is definite, such as the presence of polyps and other new growths, or bone necrosis, radical surgery alone will suffice. In relating his observations on sinus disease in private practice, Harkness recently stated: "It has been my observation that men entering private practice from clinical centers become less radical in their initial operative procedures as their experience in this field of practice progresses." Harkness then continues, "The largest group of patients suffering from paranasal sinus disease is the chronic catarrhal class. And I believe the radical surgery that has been



Fig. 3. Direct diathermy—Active electrode over frontal sinus.

practiced upon great numbers of these patients stands to the discredit of our profession."

*Conservative Therapy.* The rhinologist must of necessity seek further for more successful therapy for sinus disease. The use of argyrol tampons in the nose as suggested by Dowling is valuable, and while it is effective in numerous instances in giving relief to the patient, it does not reach the sinus mucosa, nor is it able to produce restitution of the thickened and fibrosed

membrane. The effectiveness of the Dowling treatment in relieving symptoms is most pronounced in acute inflammations and is greatly enhanced by the use of radiant heat-light over the face while the tampons remain in the middle meati of the nose.

In acute sinusitis we have found that the application of radiant heat-light to the head and face is the treatment of choice. (Fig. 1.) It reduces the congested state of the nasal and sinus mucosa and obviates the use of analgesic drugs. The action is so definitely sedative that frequently the patient will fall asleep under the light and awaken greatly relieved.

Indirect diathermy is preferred by some in acute sinusitis. It is not contraindicated at any time, even though there may be pus present in the sinus cavity. On the contrary, drainage is promoted by this method of treatment. Certainly it relieves pain and thus obviates the use of analgesics or local medication to the nasal membranes. The use of intranasal diathermy for acute sinus involvement is often ineffective in producing any result. The inflamed membrane becomes more markedly congested and the general symptoms aggravated. In some of our patients on whom we attempted intranasal diathermy we observed this aggravation of all local and general symptoms for several hours after the treatment.

Employment of a vacuum or non-vacuum electrode over an infected frontal sinus or antrum sometimes gives relief, but in general is of little value. An improved technic is so-called modified diathermy, a biterminal method in which the autocondensation pad is the indifferent electrode, and the vacuum or non-vacuum, the active one over the involved sinus. (Fig. 2.) Results with this procedure have been fair in selected cases when direct diathermy was for some reason inadvisable or contraindicated.

#### SUBACUTE AND CHRONIC NASAL ACCESSORY SINUS DISEASE

If ventilation and drainage of the nose are interfered with by septal spurs and deviations or enlarged middle turbinates surgery is essential. If pus is present in a sinus such as the antrum, for instance, irrigation cannot be replaced by any known method.

Diagnostic irrigations of these sinuses will

often yield no macroscopic pus, yet transillumination and the roentgenogram show an opacity of the diseased sinus in distinct contrast to the uninvolved one on the opposite side. Our experience in a large series of these cases has borne out the value of applying direct diathermy. The difficulties of giving diathermy directly to the frontal sinus and to the antrum, have been overcome by the use of our headband and special electrodes. The active electrode is placed over the frontal sinus (Fig. 3) or the antrum (Fig. 4) as the case might be and the indifferent electrode is adjusted to the nape of the neck. (Fig. 5.) Twenty minutes of diathermy by this method at comfortable tolerance is followed by negative



Fig. 4. Active electrode over antrum.

galvanism for five minutes through the same electrodes.

Of several interesting cases which have been treated by us during the past few years, the following are characteristic:

Patient, E. H., female, aged 24 years, laboratory technician. Disease of left antrum for four years. Submucous resection of nasal septum performed by her physician shortly after acute attack which came on with the grippe. Several antrum irrigations without result. Part of the middle turbinate on left side was resected to improve intranasal drainage with some slight favorable change. X-rays of teeth and sinuses were made. Left maxillary antrum radio-opaque. No dental pathology. Irrigation of antrum gave return



of clear fluid. Symptoms present were neuralgic pains on left side of face and some tenderness over sinus itself. Direct diathermy was given over left antrum were advised in addition, because patient was weak, irritable, had poor appetite and was losing weight. This patient required three months of active treatment, but finally was permanently relieved. One year has elapsed with no recurrence of symptoms.

Patient, M. J., male, aged 35 years, accountant. Nose negative. Ample ventilation with no apparent obstructions. Complaint, pain and tenderness over the left eye for two years. The pain was intermittent in character, but the tenderness was always present. Symptoms were more pronounced in cold weather. Roentgenogram showed veiling of left frontal sinus which was much smaller than the frontal sinus on the right side. No nasal discharge. Breathing was free. Direct diathermy applied over left frontal sinus three times weekly. After two weeks pain was relieved, but tenderness persisted. The latter symptom required two months' treatment before complete absence was noted. No recurrence of pain or tenderness after fourteen months.

*Ethmoid and Sphenoid Sinuses.* The ethmoid and sphenoid sinuses present the most difficult problem and because the results have not been as favorable as those obtained in the frontal or antrum areas, it is questionable whether these sinuses can be thoroughly diathermized by our present methods. We thought at one time that a diathermy effect in the ethmoid and sphenoid regions could be obtained by placing electrodes of equal size on each side of the face. While some heat generation is effected in the middle of the head, the amount that actually reaches the desired regions is probably insufficient to produce a physiologic response. Some favorable results have been observed in a few cases with this method, but in general we do not feel that the plan is quite satisfactory or dependable enough to warrant its recommendation. The action of intranasal diathermy on the ethmoidal cells has likewise been unsatisfactory.

In hyperplastic ethmoiditis or in polyp formation in the ethmoidal sinus, the value of surgery can be greatly enhanced by the auxiliary use of surgical diathermy.

*Action of Diathermy.* Diathermy produces a heating effect within the tissues. The depth of this action is dependent on the method of application. In the application of diathermy for sinus disease the direct method is one of choice in chronic cases. It is analgesic in acute, sub-

acute and chronic involvements, lessens symptoms by its ability to produce local hyperemia and improve the circulation to the part, and aids indirectly in the removal of waste products. Diathermy tends to soften tissue. By virtue of this the resolvent action on the fibrosed and thickened sinus mucosa can be explained.

Negative galvanism aids primarily in augmenting this latter effect and therefore is an important physical adjuvant.

#### INTRANASAL GALVANISM AND ULTRAVIOLET LIGHT

In some cases when much local disease of the nasal membrane is present which constantly hinders favorable changes of the sinus mucosa, results may be hastened by the auxiliary use of either ultraviolet light from the water-cooled lamp or zinc ionization. Ultraviolet light is indicated in the milder infections which are more superficial in nature. An improved technic for



Fig. 5. Indifferent electrode applied to nape of neck.

intranasal ultraviolet irradiations involves the use of a bilateral nasal speculum for direct raying of the nasal mucosa. (Fig. 6.) The effect is a sterilizing one. It is, however, unreasonable to assume that ultraviolet irradiations intranasally will reach sinus disease. Obviously this cannot occur unless it is possible to expose the sinus mucosa to the ultraviolet light or else to carry a quartz applicator into the sinus cavity.

When the nasal mucus membrane is chronic-

ally inflamed, favorable action can be had by zinc ionization. The technic consists of packing the nose with long strips of gauze which have first been made wet with a zinc solution (one grain zinc sulphate to the ounce of water). The packing must cover as much of the nasal mucosa as possible. One side of the nose is done at a time. When the nasal chamber is properly packed a flexible wire leading from the galvanic apparatus (positive pole) is introduced into the wet gauze and held in place by some cotton fixed snugly at the nasal opening. The indifferent or negative electrode consists of a pad which has been moistened in warm water and applied to the forearm or some other exposed body surface. When both electrodes are in place the current is turned on as the circuit is now complete. From 6 to 10 ma. of current are employed, but never an amperage beyond the patient's tolerance. Ten minutes of ionization treatment suffices.

Within 24 hours definite changes in the nasal mucosa can be observed. The turbinates are definitely smaller in size with resultant increase

ation in itself will often prove an extremely valuable procedure.

#### SUMMARY AND CONCLUSIONS

1. Numerous developments during the past few years, in the diagnosis and treatment of nasal accessory sinus disease, have favorably augmented the results obtained in various local and systemic diseases.

2. Drainage is the all important problem.

3. It is as yet doubtful whether the paranasal sinusitis precedes or develops concurrently with the systemic infection.

4. The nasal accessory sinuses present certain other problems which are dependent in a large measure on the anatomic characteristics present.

5. The local and systemic symptoms vary with the type of infecting organism and the duration and severity of the disease.

6. Certain affections such as bronchitis and asthma are definitely related to nasal accessory sinus disease.

7. The pathological changes which occur in the mucous membrane are easily transferred from the acute to the subacute or chronic stage.

8. The presence of pus in a sinus cavity may produce severe symptoms, but such symptoms may be present with nothing more than a hyperplastic thickening of the sinus mucosa.

9. Classical shrinkage and systemic measures frequently arrest an acute or subacute sinusitis.

10. When a sinusitis becomes chronic and persists for an indefinite period, radical procedures must be resorted to because conservative treatment succeeds in only a small percentage of patients.

11. In acute sinusitis radiant heat light to the head and face, or indirect diathermy over the sinuses, relieves the acute symptoms and frequently obviates the use of analgesic drugs.

12. In subacute and chronic sinus disease, direct diathermy, properly applied, is the method which thus far has given the most satisfactory results and therefore is a decided advance in sinus therapy.

13. Intranasal galvanism and ultraviolet energy from the water cooled quartz lamp are important and valuable physical adjuvants.

30 North Michigan Avenue.



Fig. 6. Direct raying of nasal mucosa employing bilateral nasal speculum.

of space and improved ventilation and drainage. Sometimes, however, within the first 24 hours, congestion of the nasal membrane occurs and general symptoms of malaise but these disappear on the second day.

If a suitable artificial opening to a diseased sinus has been made during a previous operation, the wet zinc packing can be introduced into the sinus cavity, and when this is possible, zinc ioniz-



HODGKIN'S DISEASE — ABDOMINAL  
TYPE. REPORT OF A CASE WITH  
PRIMARY INVOLVEMENT OF  
THE RETROPERITONEAL  
GLANDS\*

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The internal type of Hodgkin's disease, while perhaps not as rare as is commonly thought, is nevertheless, of unusual interest because of its relative infrequency and because of the many interesting problems encountered in its diagnosis. In this type the glands of either the thorax or the abdomen, or both, may be involved, the one group of glands usually being affected at an earlier date and to a greater extent than the other. The external glands in either case may be involved secondarily—enlargement of the cervical and axillary nodes supposedly following a primary thoracic process, and enlargement of the inguinal nodes being secondary to a primary abdominal process. This is exactly the reverse of the train of events that may occur in the ordinary external type of Hodgkin's disease, which is usually characterized by a progressive, painless enlargement of the cervical, axillary, and inguinal glands, with a later involvement of the mediastinal or abdominal glands. In both the external and the internal type there is ordinarily fever and anemia.

In the differential diagnosis of Hodgkin's disease the more common maladies to be considered are the infectious granulomata—tuberculosis and syphilis, the true neoplasms, which are usually sarcomatous in nature, and the leukemias. Although these diseases will not be discussed here, it may be mentioned that tuberculosis is one of the confusing conditions that most frequently enters into the differential diagnosis. Intensive investigation as to the part played by the tubercle bacillus in the causation of this disease began seriously with the studies of Sternberg in 1898. He contended that Hodgkin's disease was a form of tuberculosis, but later on, his own studies, and more recently those of others—particularly the American investigators—have conclusively demonstrated that the tubercle bacillus is purely a secondary invader of the diseased structures, and in no sense a causative agent. In this rôle it is probably found no more frequently than many

of the other organisms, which at one time or another have been suspected of being the cause of the disease.

The significant feature in the writer's case was the involvement, first, of only the retroperitoneal glands. Such an involvement as an initial symptom is exceedingly rare; when it occurs before other glands become affected, it may be referred to as "isolated glandular enlargement" or "localized Hodgkin's disease," which later becomes generalized. Williamson,<sup>1</sup> in recording a case of this type, lays emphasis on its rarity and the difficulty of diagnosis. In his case the diagnosis was not made until one of the inguinal glands became enlarged and was examined microscopically.

The interesting features in the case here reported are: (1) That the symptoms were mainly of the gastro-intestinal type and strongly suggested duodenal ulcer; (2) that enlargement of the axillary, cervical, and inguinal nodes did not appear until three months after operation for the primary retroperitoneal growth, at which time deep x-ray therapy was begun; (3) that, with the involvement of the external glands, the wrists became much swollen, and very tender and painful, and there was a rapid extension of this inflammatory process to the ankles and knees. This joint involvement, which was of significant interest in the case, suggests that the disease may be of an inflammatory and infectious nature. Furthermore, the case serves to emphasize the necessity of appreciating the fact that enlargement of the cervical lymph-nodes is not always the first manifestation of this affection. Symmers,<sup>2</sup> from a study of 15 cases of Hodgkin's disease, concludes that we must relinquish the conception that this disease is most commonly shown by enlargement of the cervical lymph-nodes. In his series the affection revealed itself frequently as an enlargement of the abdominal and thoracic lymph-nodes. He claims that the brunt of the attack is borne by the nodes of the abdomen, thorax, neck, axilla, and groin, and by the auxiliary lymphoid systems in the spleen and liver.

It is interesting to note that the first case of the disease described by Hodgkin<sup>3</sup> appears to be an example of the internal form. The patient was a boy, aged nine years, whose abdomen was distended with ascites; the bronchial and abdominal glands were greatly enlarged and much

\*Read before a meeting of the Philadelphia County Medical Society, January 13, 1926.

indurated. Dreschfeldt,<sup>4</sup> in 1892, described 3 cases of acute Hodgkin's disease, in 2 of which there was no enlargement of the external glands. Since that time cases of the abdominal type have occasionally been reported; in these, the diagnosis was only made after external glands became involved, or at necropsy.

#### CASE REPORT

A clerk of Jewish extraction, aged forty-six years, married, when seen on September 2, 1924, stated that he had suffered from "indigestion" for years. For the past three months he had been subject to attacks of sharp, cutting pain across the upper abdomen and localized pain in the epigastrium. The attacks came on about three hours after eating, and were relieved by taking food. He had frequent nocturnal attacks which awakened him. The appetite was good. The bowels were constipated, the stools being of the spastic type; they were normal in color and contained no blood or mucus. Occasionally there was vomiting in the morning; the vomitus did not contain food or blood. During the past three months the patient had lost 18 pounds; this he attributed to the fact that he was afraid to eat. Except for the indigestion, he had always enjoyed good health. He used tobacco and alcohol moderately; he had never had any venereal disease. His mother died of "cancer of the uterus"; otherwise the family history was of no significance.

Physical examination revealed a fairly well-nourished man, who had some carious teeth, and diseased tonsils. The scleræ were clear; the pupils were equal and reacted to light and accommodation. The heart and lungs were negative. The upper part of the abdomen was distended, and there was very definitely palpable in the epigastrium a distinct nodular mass, firm and slightly tender. The spleen did not appear to be enlarged; the liver extended about 1 inch below the costal border. There was no ascites. Possibly the right inguinal glands were slightly enlarged; no other glandular involvement could be detected. Proctoscopic examination was negative. The temperature was 98° F., the pulse 80, the blood-pressure 118 systolic and 74 diastolic. The weight was 148 pounds.

The urine was amber, flocculent, acid, with a specific gravity of 1.033 and a faint trace of albumin; there was no sugar and no acetone. The

morning and evening specimens showed a large amount of indican. There were some hyaline casts, much mucus, some leukocytes, an occasional pus-cell, and a few epithelial cells.

The feces were yellow, apparently normal, with a faintly alkaline reaction. They contained a small amount of unchanged starch; the protein and fat digestion was apparently normal. There were no ova or parasites; no blood, free or occult, was found, and only a very little mucus which was well mixed. The bacteria were entirely Gram-negative, *B. coli* predominating, with a few *B. mesentericus*, a few long slender bacilli in chains, and an occasional spore.

The blood-count showed: red blood-cells, 4,210,000; leukocytes, 5,200; hemoglobin, 75 per cent. Unfortunately, a differential count was not made at this time.

A fractional gastric analysis revealed nothing of significance.

The Wassermann reaction, on October 2, 1924, was negative.

Roentgenologic examination of the gastro-intestinal tract three months before the patient was first seen by the writer showed a defect of the duodenal cap, which was thought to be due to some outside pressure rather than to ulcer. A second roentgenologic examination of the gastro-intestinal tract, made by Dr. Ralph Bromer four months later, showed a slight enlargement of the right kidney. The twenty-four and forty-eight-hour examinations revealed stasis in the transverse colon and moderate spasticity. With the patient in the prone position, the lesser curvature of the stomach appeared to be circular in outline. The roentgenologist thought this was caused by the mass that could be felt clinically; he was certain that an enlarged right kidney could not cause this appearance, and believed that an enlarged liver afforded the most plausible explanation. The x-ray examination of the teeth showed no infection, but there was an unerupted left upper molar.

The preoperative diagnosis was retroperitoneal sarcoma.

The patient was operated upon on November 4, 1924, at the University of Pennsylvania Hospital, by Dr. George Müller. When the abdomen was opened through a left rectus incision a large retroperitoneal mass was seen, which extended from the lesser omental cavity to below the trans-



verse mesocolon, and had pushed the stomach and liver forward, causing some obstruction at the duodenojejunal junction. This obstruction no doubt caused the initial gastro-intestinal symptoms which suggested duodenal ulcer. The presence of kinks and bands angulating and constricting the duodenojejunal juncture, and thereby producing a characteristic picture of peptic ulcer, has recently received considerable attention. There were many extensive glandular metastases in the peritoneum. One of the glands was removed for examination, the report on it being as follows: A frozen section of the lymphoid tissue shows it to be in a hyperplastic state. The capsule is slightly thickened, and shows no cellular invasion of its meshes by lymphoid tissue. The germinal centers are large and numerous. The lymphoid sinuses contain lymphocytes and endothelial cells.

Diagnosis: Hyperplasia of the lymphoid tissue.

Unfortunately this examination was confined to sections of frozen tissue only. The lymphoid hyperplasia, however, is usually the only histologic change noted at an early stage, not only in Hodgkin's disease, but also in streptococcic, tuberculous, actinomycotic, and other infections of the lymphatic apparatus. Again, excessive fibrosis may be the only finding in a gland which has been long affected by the disease. This may be so extensive as to destroy the characteristic histologic picture observed during the course of the disease.

On November 19 the patient returned for x-ray treatment, which was given in four courses by Dr. Pancoast and Dr. Pendergrass. These courses covered the periods from November 19

to December 2, 1924; from January 5 to January 14, 1925; and March 2 and 3 and April 7 and 9, 1925 (See Table I).

After the second course of treatment the original retroperitoneal mass was not palpable.

The patient returned on February 21, 1925, three months after operation, complaining that all his joints were aching; the wrists and ankles were swollen and tender. The first joints to be affected were the wrists, and the involvement then spread to the knees and ankles, which were stiff and painful. The patient stated that he had had a similar attack, though not so severe, earlier in the winter. Examination now revealed that the posterior cervical, axillary, and inguinal glands were all enlarged. They were freely movable, not tender, were not attached to the skin, and showed no evidence of breaking down. The patient stated that the left axillary glands had first begun to increase in size two days previously and the enlargement of the others followed rapidly. His weight at this time was 142 pounds (6 pounds less than on first examination). A cervical gland was removed for microscopic examination. The report of Dr. A. J. Bothe on this was as follows:

Gross examination: Specimen consists of a lymph-gland about the size of a small white bean. On section it is found to be well encapsulated, pinkish-white in color, and does not bulge.

Microscopic examination: Sections show loss of the lymph-gland architecture. The capsule is slightly thickened, and there is no evidence of cellular invasion. There is a fairly diffuse infiltration into the lymphoid tissue by columns of cells of two types; some of these appear as fibroblasts, while the majority are of the endothelial

TABLE 1

FIRST	Date	Minutes 75 each	Milli- amperes 4	Kili- volts 200	Filter Al. mm. 1 Cu. mm. 5	Focal distance 50 cm.	Portals 3	Milliampere minutes 300 each	Location Abdomen anteriorly. Lumbar region, right and left.
COURSE:	1924 November 19th to Decem- ber 2d.								
SECOND	1925 January 5th. to 14th.	75 each	4	200	Al. mm. 1 Cu. mm. 5	50 cm.	3	300 each	Abdomen, right and left, slightly oblique. Lum- bar region posteriorly.
COURSE:									
THIRD	1925 March 2d. and 3d.	11 each	5	130	Al. mm. 3 Glass mm. 1 Wood mm. ½	24 cm.	5	55 each	Cervical region, right and left. Axillæ, right and left.
COURSE:									
FOURTH	1925 April 7th.	11 each	5	120	Al. mm. 3 Glass mm. 1 Wood mm. ½	24 cm.	4	55 each	Cervical region, right and left. Axillæ, right and left.
COURSE:									
	April 9th.	50 each	4	200	Al. mm. 2 Cu. mm. 5	50 cm.	1	200 each	Abdomen anteriorly.

type. There are scattered throughout the entire section a number of giant-cells, which are fairly large, and contain from 2 to 4 centrally placed nuclei. The prevailing cell in the section is the mature lymphocyte. While there are no eosinophils present, the loss of architecture in this tissue, the presence of fibrosis, the proliferation of endothelial cells, and the presence of Dorothy Reed cells and polymorphonuclears suggests that we are dealing with a Hodgkin's type of pathology.

Diagnosis: Hodgkin's type of lymph-glands (Figs. 1 and 2).

This report was confirmed by Dr. J. L. Go-forth and Dr. Allen J. Smith.

Examination on April 2, 1925, showed that the glands of the left axilla, which at the former examination were more markedly enlarged than those of the right side, were still further increased in size, and the submaxillary supraclavicular, and anterior cervical glands were involved. The glands above and below Poupart's ligament were much increased in size. The spleen was not palpable, there was no fluid in the abdomen, and the area of liver dullness was slightly enlarged. The joints of the hands, ankles, and knees were swollen and tender. During the months of January, February, and March of this year (1925) the patient suffered every night from backache, chilliness, and fever. He stated that his joints first troubled him in May, 1924, when the hands and wrists became swollen and stiff. The acute condition of the joints, which suggested acute rheumatic fever, lasted from January 15th to March 15th. The patient's digestion was apparently normal, but easily deranged.

On April 16, two weeks later, the patient reported that he felt well, except for the stiffness still persisting in all the joints. He had lost 9 pounds and was growing weaker. The left foot and ankle were slightly swollen. Fowler's solution was prescribed at this time, but because of an idiosyncrasy he was unable to continue it. The cervical, axillary, and inguinal glands were still enlarged,

though they had decreased somewhat in size since the x-ray treatment. Whether or not this was the result of the treatment can only be surmised, as great variation in the size and consistency of any of the involved glands may occur during the natural course of the disease. The enlargement of the axillary glands was still somewhat greater on the left side than on the right. The inguinal glands were enlarged on both sides, but more so on the right. The spleen and liver were not palpable, but on percussion the lower border of the liver still extended two finger-breadths below the costal border. The upper border of the liver was normal. There was no ascites.

On May 15, 1925, the tonsils were removed by Dr. George Fetterolf. They were small, but very septic, and behind the posterior pillars there was found a mass of infected lymphoid tissue. Unfortunately no bacteriologic or histologic exami-

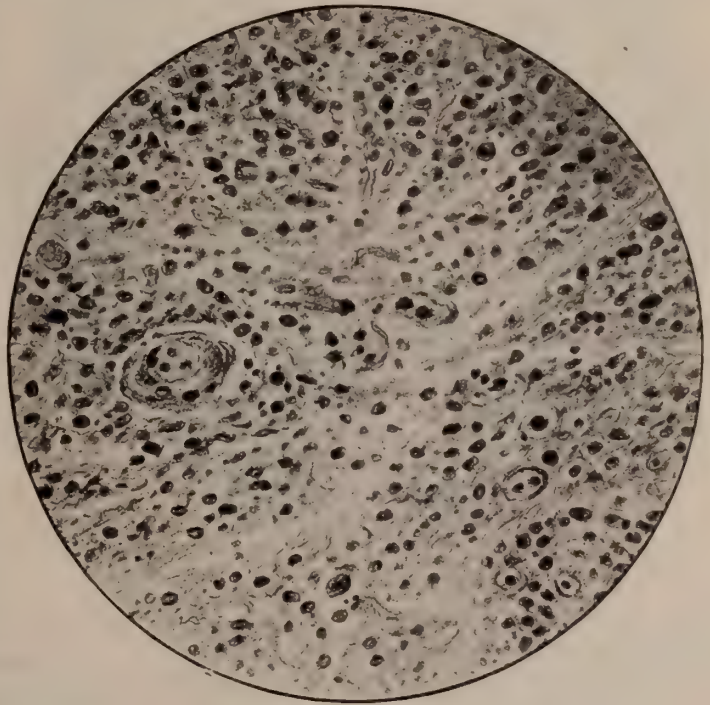


Fig. 1. High power.

Section of lymph-gland showing: 1. Loss of architecture. 2. Diffuse fibrosis. 3. Proliferation of endothelial cells. 4. Presence of polymorphonuclear leukocytes. 5. Multinucleated giant-cells (Dorothy Reed cells).

nation was made of the removed tonsils. This would have been interesting because of the strong suspicion that the throat and tonsils may serve as a portal of entry for infection, since the disease often starts in the cervical glands. There is substantial convincing evidence in the work of



Bunting, Yates, Rosenow, Billings, and others, that this disease is produced by a specific organism, a diphtheroid bacillus and an ameba being the last to claim this distinction, and that consequently it is an infectious granuloma. Dr. Allen J. Smith, who has been examining sections of glands affected with Hodgkin's disease and supposed to contain these amebae, states that he has been unable to find them.

From June 5, 1925, to August 25, 1925, the patient received Coley's serum in increasing doses up to  $5\frac{1}{2}$  minims. He refused injections beyond this point because of the reaction. During this interval the stiffness, pain, and swelling of the

some weeks during the period of joint involvement a record of the temperature was kept. It varied from  $96^{\circ}$  to  $101^{\circ}$  F., and was of an irregular type, the afebrile periods being considerably longer than the febrile. Pyrexia is a fairly constant phenomenon in this disease, and may be irregular, intermittent, or relapsing in its course. It may represent the secondary infection of the lymph-nodes, which is frequently known to develop, or it may be the result of a specific toxemia.

The anemia, which is always associated with Hodgkin's disease, is one of its characteristic features. In this case the bloodcounts were as follows: (The first three counts were made during the period of joint involvement.)

February 2, 1925: Red blood-cells, 3,900,000; white blood-cells, 7,500; hemoglobin, 65 per cent.; polynuclears, 53 per cent.; small lymphocytes, 5 per cent.; large lymphocytes, 25 per cent.; large mononuclears, 1 per cent.; transitionals, 8 per cent.; eosinophils, 8 per cent.

March 3, 1925: Red blood-cells, 4,450,000; white blood-cells, 14,400; hemoglobin, 67 per cent.

December 31, 1925: Red blood-cells, 4,090,000; white blood-cells, 9,400; hemoglobin, 74 per cent.; polynuclears, 82 per cent.; large lymphocytes, 11 per cent.; transitionals, 2 per cent.; eosinophils, 5 per cent. Blood-sugar, 124.1 mg.; blood-urea, 12.2 mg.; non-protein nitrogen, 27.1 mg.; icterus index, 10.

January 6, 1925: Red blood-cells, 4,100,000; white blood-cells, 8,600; hemoglobin, 78 per cent.; polynuclears, 52 per cent.; small lymphocytes, 4 per cent.; large lymphocytes, 28 per cent.; large mononuclears, 2 per cent.; transitionals, 4 per cent.; eosinophils, 10 per cent.; blood-platelets, 448,000.

These examinations presented the usual findings, namely, anemia of the secondary type, a slight absolute leukocytosis, and an increase of the eosinophil cells. Later there was a marked polynuclear leukocytosis, eosinophilia up to 16 per cent.; and increase of the blood-platelets

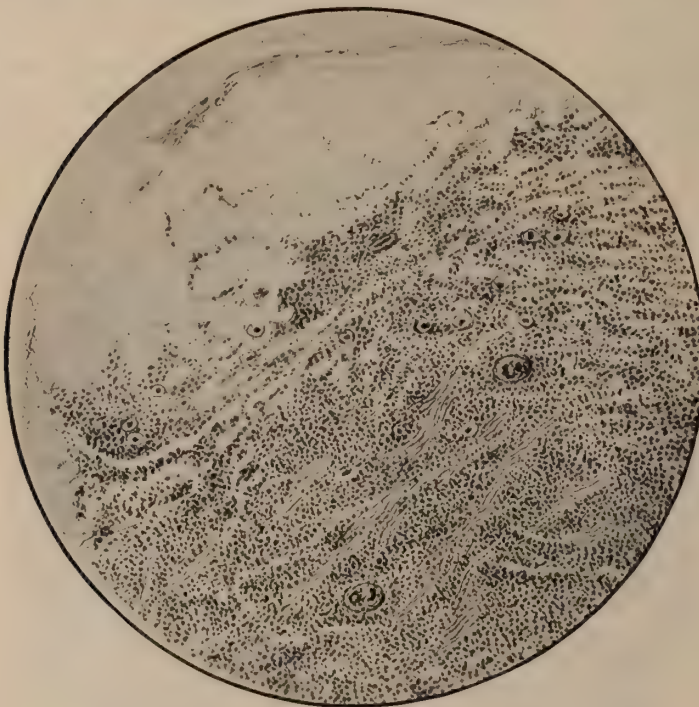


Fig. 2.—Low power.

joints entirely disappeared, and, to use his own expression, he felt "completely rejuvenated."

On September 10, 1925, he reported that he had been suffering desperately from an itching, which began on the legs. Later it was localized to the abdomen, then the chest, and now to the head and neck. No structural change in the skin could be detected. Pruritus is a common manifestation of this disease, especially during its acute exacerbations. In this case a considerable diminution of the eosinophil cells in the blood occurred, with a temporary spontaneous alleviation of the pruritus, a symptom which usually appears early and is difficult to control. For

to 448,000. Ordinarily the leukocytes appear to increase with the course of the disease and an early lymphocytosis later gives way to a polymorphonuclear leukocytosis. Bunting has recently stated that a relative or absolute increase in the transitional cells and a total increase of the blood-platelets is a constant distinguishing feature of the disease.

On January 6, 1925, the patient stated that one week ago the left lower leg began to swell, the swelling gradually involving the entire leg, lower abdominal wall, and genitalia. After an x-ray treatment of the abdominal glands, this edema subsided and to date there has been no recurrence. This complication was undoubtedly due to pressure from enlarged retroperitoneal glands on the veins from the affected parts, and as soon as this pressure was relieved by the shrinking of the glands the swelling disappeared. Had it not been for the localization of the edema, it might have been thought to be of renal origin, as the urine at this time was observed to contain a heavy cloud of albumen, and hyaline and granular casts.

The blood-count (200 cells) at this time showed: Polynuclears, 46 per cent.; small lymphocytes, 5 per cent.; large lymphocytes, 14 per cent.; large mononuclears, 6 per cent.; transitionals, 5 per cent.; eosinophils, 16 per cent.; basophils, 1 per cent.; red blood-cells, 4,100,000; white blood-cells, 8,600; hemoglobin, 78 per cent.; blood-platelets, 448,000.

January 13, 1925: Urinalysis showed a faint trace of albumin and a few hyaline and granular casts.

January 30, 1926: Blood-count showed red blood-cells, 3,940,000; white blood-cells, 6,050; hemoglobin, 62 per cent.; polynuclears, 84 per cent.; large lymphocytes, 5 per cent.; large mononuclears, 5 per cent.; transitionals, 4 per cent.; eosinophils, 2 per cent.

On April 3, 1926, the patient complained of some distress in the epigastrium after meals. He reported increasing weakness and constant drowsiness. The glands were all smaller, and with this reduction in the size of the glands there had occurred an amelioration of the pruritus and of the excessive heated feeling of the entire body, from which he had previously suffered.

This sense of heat was now confined to the hands and feet. Recently there had been some brownish pigmentation on the anterior surface of the left thigh. The heart action was very rapid, the pulse 128, and the temperature 102° F. The weight was 137 pounds. The patient had been complaining for several weeks of severe chills almost daily, especially when hungry or exhausted.

The criteria essential in making a diagnosis, which were established in this case, are as follows:

1. A primary enlargement of the retroperitoneal glands, followed by progressive painless enlargement of the posterior and anterior cervical, axillary, and inguinal glands. The glands were not tender. Individual nodes could be isolated and were freely movable. None of the glands was adherent to the skin, and none showed any evidence of breaking down. They varied from time to time in size and consistency.

2. Enlargement of the liver.

3. Progressive loss of weight and strength accompanied with fever that, in this case, was irregular in type.

4. The presence of secondary anemia with a polymorphonuclear leukocytosis, and an increase of the eosinophils and blood-platelets.

5. Pruritus.

6. Biopsy of glands, which revealed characteristic findings of Hodgkin's disease.

The literature seems to indicate that the case can have but one outcome. The only treatment that has proved of any value in Hodgkin's disease is roentgenotherapy, the success of which is usually most noticeable in the early cases, especially those in which the glands have not yet become fibrous. Some observers are convinced that the disease is curable in the early stages. Yates,<sup>5</sup> for instance, advises radical extirpation of all the tissue that can safely be taken from the affected region, followed by postoperative radiation of the site from which the tissue has been removed, preference being given to the x-rays. The radiation, however, should be carefully controlled by blood-counts in order to avoid a leukopenia. Successive radiations or excisions are carried out as indicated by the blood-picture and evidences of recrudescence. Symmers,<sup>2</sup> on the other hand, states that although roentgenotherapy is often followed by a remarkable diminution in the size of the lymph-nodes, the outlook



is hopeless. While it is true that life may be prolonged and distressing pressure symptoms may be relieved, the consensus of opinion is that no patient has ever been cured of Hodgkin's disease by radiation or by any other method.

On April 17, 1926, patient was admitted to the University Hospital to the service of Dr. Pendergrass. He was rapidly losing weight and strength and was retaining but little nourishment. He was troubled with a persistent cough and slept almost constantly. He developed a bronchopneumonia and died May 15, 1926, having been under observation continuously for over twenty months.

An autopsy was performed by Dr. McCutcheon of the University of Pennsylvania. Following is the report of the autopsy as submitted by Dr. McCutcheon and Dr. Baldwin Lucke. The fibrosis noted in the lymph-glands was probably partially induced by Roentgen-ray therapy.

*Autopsy No. 11776-'26-468. Date, 5-15-1926, University Hospital.*  
*Services of Drs. Boles and Pendergrass. Performed by Dr. McCutcheon.*

Name of Subject: B. M.  
 Admitted to Hospital: 4-27-1926.  
 Died: 5-15-1926.  
 Clinical Diagnosis: Hodgkin's disease.  
 Bacteriologic Diagnosis: No bacteriologic examination.  
 Gross Anatomic Diagnosis  
 Hodgkin's disease.  
 Heart: Normal.  
 Spleen: Chronic hyperplasia and fibrosis.  
 Liver: Hodgkin's disease.  
 Kidneys: Normal.  
 Pancreas:  
 Skin:  
 Lymph-nodes: Right and left axillary. Peribronchial.  
 Retroperitoneal.  
 Lung: Bronchopneumonia. Tuberculosis, cavity formation, right apex.

Histologic Diagnosis  
 Fibrosis: Hyaline degeneration of the arteries.  
 Hodgkin's disease.  
 Slight cloudy swelling.  
 Normal.  
 Superficial erosion.  
 Hodgkin's disease (fibrosing stage).  
 Faulty resolution and partial organization.

#### REPORT BY DR. M'CUTCHEON

*External Examination.*—Body of white, adult male, normal framework and moderately emaciated. Body is still warm. No edema, jaundice, or eruption. Scar of old laparotomy wound to the left of the umbilicus. Scleræ clear; no discharge from orifices. Genitalia and extremities negative. Hair distribution and skull normal.

*Internal Examination.*—Pericardial sac is normal. Pleural cavities free from adhesions.

*Aorta.*—Normal in caliber; no marked sclerotic changes.

*Heart.*—Weighs 250 gm.; normal in consistency. Epicardium smooth; myocardium normal in color. No changes in valves. Wall of left ventricle, 15; right, 5 mm. Aortic valve, 7;

mitral, 9; tricuspid, 11; and pulmonary, 6 mm. No marked coronary sclerosis.

*Abdomen.*—Shows adhesions of omentum below the laparotomy scar. Peritoneum is smooth and glistening. Cavity contains about 50 c.c. of clear fluid. Diaphragm reaches to the fourth rib on the right side; fourth interspace on the left. Appendix free. Organs in normal position, except as described.

*Spleen.*—Weighs 220 gm.; tough. Capsule unthickened. On section pink, and fibrosed. Follicles not distinct.

*Esophagus.*—Grossly normal.

*Stomach.*—Moderate size, grossly normal. Gastric glands moderately enlarged along lesser curvature.

*Intestines.*—Are grossly normal. No lymphoid enlargement of mucosa.

*Liver.*—Weighs 2,295 gm.; consistency increased slightly. Capsule unthickened on superior aspect of right lobe; on lower aspect of left are pale areas of new growth. On section some of these are quadrangular, some circular; these rather sharply demarcated and not encapsulated. Gross structure of liver tissue can be followed for some distance into these areas and in this respect they do not resemble tumors; largest of these areas about 4 cm. in diameter. Many other smaller, more infiltrating areas of new growth, are found, especially in the right lobe, otherwise the liver tissue presents the usual appearance in regard to color and markings.

*Gall-Bladder.*—Is grossly normal. Bile is readily expressed into duodenum.

*Pancreas.*—Consistency increased; lobulation normal. Neighboring lymph-nodes are somewhat enlarged, scarred, and do not encroach on pancreas. Mediastinal and peribronchial lymph-nodes are not enlarged.

*Adrenals.*—Grossly normal. The left embedded in a mass of scarred lymph-nodes.

*Left Kidney.*—Weighs 175 gm.; right, 130 gm. Capsule strips easily, leaving a smooth surface. On section normal color; cortical striations somewhat less distinct than normal. Corticomedullary junction distinct.

Left ureter is embedded in scar tissue as it crosses the iliac artery, but no hydronephrosis is present.

*Urinary Bladder.*—Is grossly normal.

*Prostate.*—Slightly enlarged. The mesenteric lymph-nodes show little change. Lymph-nodes

along the aorta are intensely scarred, pale pink, and embedded in a mass of dense white scar tissue; the same is true of nodes along the left iliac artery. Axillary nodes are normal in size and indurated. Inguinals and cervicals not palpable.

Sections from the lung, peribronchial lymph-node, right and left axillary lymph-nodes; retroperitoneal lymph-nodes; spleen; liver, and kidney.

Sections were prepared and examined histologically from the following parts: (1) Lung, (2) liver, (3) spleen, (4) kidney, (5) pancreas, (6) skin, (7) lymph-nodes.

*Lung.*—The pleura is moderately thickened, fibrosed, and covered with a layer of low cuboidal mesothelial cells. The architecture of the lung is considerably distorted. In most areas the air spaces are either collapsed or else filled with hyalinized fibrin exudate in which lie occasional leukocytes and young connective-tissue cells. The alveolar walls are somewhat thickened and many are adherent to one another. Many of the capillaries are completely collapsed; others, however, are considerably engorged. Several large bronchi are packed with pus cells; their mucosa is partly lost and they usually have edematous walls infiltrated with leukocytes. In a few areas the lung tissue approaches the normal, but here the air spaces are flooded with erythrocytes and many contain phagocytic cells laden with carbon pigment. The arteries have a somewhat irregularly thickened and partly hyalinized intima; the internal elastica is split and much proliferated.

*Liver.*—In many areas there are masses of peculiar granulation tissue, consisting of densely interwoven delicate fibrous strands in which lie great numbers of large multinucleated giant-cells (Dorothy Reed cells); the nuclei of these cells take a deep purple stain. Here and there are scattered a few eosinophils, but they are nowhere conspicuous. Many of the fibrocellular masses occupy several low-power microscopic fields. Elsewhere in the liver smaller areas of like composition are encountered, occurring particularly at the lobular peripheries. The liver tissue proper is not separated from the new growth and in many places tongues of liver tissue extend into the granuloma. The hepatic cells have the usual arrangement, but they are generally

swollen, poorly outlined, and many have lost their nuclei.

*Spleen.*—The capsule is moderately thickened, its outer portions are very edematous and infiltrated with small round cells, eosinophils, plasma-cells, and larger endothelial elements. Trabeculae are of average size. The splenic structure is preserved, but there is an evident overgrowth of the stroma and the walls of the blood-channels are distinctly prominent. The sinuses contain, chiefly, erythrocytes, with occasional intermingled larger mononuclear elements; they are lined by prominent endothelial cells. The splenic pulp is scanty, and in addition to the usual cellular elements there are seen occasional large multinucleated giant-cells. The central arteries have thick hyaline intimal coats. The Malpighian follicles are small, densely packed, and in many are seen small irregular hyaline masses. No granulomas, such as occur in the liver, are encountered.

*Kidney.*—Capsule is normal. The stroma shows no proliferative changes. The general architecture is normal. The capillaries, in both cortex and medulla, are inconspicuous. Glomeruli are of average size, normally nuclear, and have poorly filled coils; the capsule of Bowman and its lining cells are normal. The convoluted tubules are lined by moderately swollen poorly preserved cells which are frequently devoid of nucleus; many of the cells contain small vacuoles. Similar changes are seen in the limbs of Henle. The collecting tubules are normal. A few larger branches of the renal arteries have a slightly irregularly thickened intima.

*Pancreas.*—The stroma is normal. The lobules are of average size. Acini are normal. Islands of Langerhans are numerous and consist of well preserved, normally appearing cells.

*Skin.*—The epiderm is normal. The corium is slightly edematous, and free from cellular invasion. A number of sweat glands are normal. At one area there is a superficial erosion; here the epiderm is absent, its place being taken by a hyaline necrotic mass in which are embedded a number of dark pyknotic nuclei. Processes of newly-formed regenerating epiderm are seen to extend into and beneath the scab.

*Lymph-nodes.*—Sections are taken from the right axillary, left axillary, peribronchial, and retroperitoneal lymph-nodes. The changes are



similar, but most marked in the axillary nodes, which have a thickened, fibrous capsule. The interior of the node shows much disorganization. Many vessels are surrounded by extremely thick hyaline mantles, and in addition there are many places of roundish hyaline bodies having no discoverable relation to the vascular supply. The sinusoids contain eosinophils, as well as large proliferated reticular cells. The stroma is prominent. The lymphoid tissue has been partly replaced by epithelioid cells, as well as by hyalinized fibrous scars.

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## POSTNATAL CARE\*

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The birth of the baby does not mark the termination of an obstetrical case. It may be the very start of disease. Because of the joy connected with every new arrival we too often have a tendency to regard our task as done with nothing more needed except a little time to bring the patient back to full activity. The relaxation which follows the effort required for delivery is also apt to make us forget that the patient needs continued care.

The profession has practiced prenatal care only during the last twenty years and even now it is not given to any extent in the majority of obstetrical cases. The majority of obstetrical cases are not hospitalized and a large percentage of such cases are not treated with any surgical technic. Added to these conditions is the tendency to regard delivery as the termination of the case and giving only occasional visits to the patient during the puerperium. As a result we have had a stationary mortality rate in obstetrics in this country for over twenty-five years. This does not compare very favorably with the mortality rate of any of the well known diseases. This mortality rate and the corresponding morbidity will probably continue until the profession and the laity have been taught, *first*, to give

thorough prenatal care, *second*, to regard delivery strictly as a surgical procedure where special knowledge and skill are required, and *third*, that delivery is to be followed by close observation and care over a period of from eight to twelve weeks.

Prenatal care was taken up rather rapidly by the profession. It is practiced in every well regulated maternity today. The results have been very satisfactory. The absence of eclampsia alone is proof enough of its value. The post-natal period, however, has been somewhat neglected. That period of three months following delivery really furnishes as much opportunity for supervision and help as the prenatal period and it is quite essential that we give our patients more careful supervision during that time.

An attempt is here made to discuss some of the ways in which that supervision can be given.

The five most essential things to be guarded against during the first few days following delivery are: bleeding, toxemia, retention of urine, restlessness and infection. Since the introduction of pituitrin and ergot, especially in hypodermic form, and the use of gas as an anesthetic instead of ether, we have much less postpartum bleeding. A cubic centimeter of pituitrin can be given hypodermically at the end of the second stage and an ampule of ergot intramuscularly at the termination of the third stage. If bleeding occurs after the patient is in bed either ergot by mouth or a repeated injection of pituitrin will generally check it. A woman with a tendency to bleed is very rare and such a tendency is usually noticed during delivery and the uterus is packed. Bleeding some days after delivery generally means retained placenta or membranes, a condition which generally corrects itself, but should be treated by curettage before the patient has been harmed by an excessive loss of blood. Some women develop severe anemia at the time of delivery regardless of the amount of blood lost. Rare cases of even fatal hemolysis have been recorded. A blood test should be made if the patient has lost considerable blood or has pallor. Many of the headaches which are rather frequent during convalescence are due to anemia. Diet, fluids, and the use of some iron tonic should be continued until a blood count indicates sufficient improvement. This may mean for a period of weeks.

Twenty to thirty per cent. of all cases of

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eclampsia in this country occur postpartum according to Williams, Newell, and McPherson. Postpartum eclampsia is regarded by some as the most severe type and by others in just the opposite manner. It would be safe to say, however, that it has a mortality in the very best of hands of from ten to twenty-five per cent. Every patient having a blood pressure over 140 during or before labor or marked edema or albumin in the urine should have frequent blood pressure readings after delivery and catheterized specimens of urine examined at least every twenty-four hours. If the blood pressure is high or any pre-eclamptic symptoms are present such as visual disturbance, epigastric pain, headache, edema or retention of urine, the patient should be given a *non-protein* diet, an abundance of fluids and a brisk saline cathartic. If she is at all restless or in need of sleep she should be given a fairly large dose of morphin hypodermically or a small retention enema containing chloral hydrate and sodium bromide, of each 30 grains. If fluids are urgently needed they should be supplied by vein or under the skin. If the blood pressure becomes alarming such as 180 to 200 for any length of time, venesection will generally give some relief. When the symptoms subside she should be placed on a *low protein* diet. Saline cathartics should be continued for some days. She should have a longer period of rest in bed than is usually required. In many toxic cases the vision is disturbed and these cases should be seen by an oculist. I have seen a case of eclampsia develop on the sixth postpartum day with hemiplegia during the first convulsion and death ten days later.

Every parturient woman needs sleep. If there is no tendency to bleed following delivery it is many times desirable to give  $1/6$  grain of morphin by hypodermic when the patient reaches her bed. This is especially indicated if delivery occurs at night. Her periods of rest should be as long as possible and for that reason we have at the Evanston Hospital discontinued the 2 A. M. nursing on every case during the first week and during the second week also if the baby is over seven pounds or is gaining satisfactorily without it. There is a tendency in many maternity wards to establish a routine convenient to the nurses and to forget the necessity of long periods for sleep or rest for the patient. The

patient should not be disturbed for unnecessary things in the early morning such as taking her temperature and washing her hands and face. Some simple hypnotic can be used with very good results at times if the patient does not sleep well. Pain such as that produced by uterine contractions or engorged breasts should always be relieved is possible, especially at night.

If the patient does not void within twelve hours after delivery she should be catheterized. After the first twelve hours her bladder should be emptied at least every eight hours. If a patient has been catheterized she should have a test catheterization after she voids at least once a day until the residual urine has been found to be less than 50 c.c. on two consecutive tests. Each catheterization should be followed by the instillation of 20 c.c. of some urinary antiseptic such as one-half per cent. mercurochrome solution. The bladder should never be allowed to distend regardless of the time between voidings or catheterizations. It may fill very rapidly becoming distended in only a few hours. A full bladder pushes the uterus out of the cone shaped pelvis and may thereby cause postpartum hemorrhage. It may also become so distended that the musculature will not function for days. Once a patient has been catheterized the bladder must be completely emptied at least once or twice daily in order to prevent a cystitis from residual urine.

The majority of all fevers during the puerperium are due to infection of the pelvis and external genitalia and practically every infection of this type is due to the lack of strict aseptic technique during the delivery and the puerperium. A great many cases of puerperal fever have their origin after delivery and they should all be prevented. It is fairly accurately estimated that eight thousand women die in the United States every year from puerperal fever, one for every four hundred deliveries. This estimate is based upon the reports received from the states requiring the registration of all births and deaths. The registered area comprises only 82 per cent. of the population. The reports of our maternity hospitals furnish the evidence to show that they are practically all due to contamination. One reported series from different maternity centers totaled 39,000 deliveries with only five deaths due to infection, or one in 7,800 instead of one in 400. If puerperal infections



were auto infections the figure would be much higher. We also have the report of 11,165 home deliveries in the slums of large cities with only one death due to infection. These deliveries were all followed closely by visiting nurses during the puerperium. This would seem to indicate that careful technique with the patient at home yields the best results from the standpoint of infection. However, we have the figure of 8,000 deaths every year due to infection and the statement that most of our babies are born at home. The two put together give evidence of lack of proper asepsis during the delivery and the puerperium among our home cases.

No attempt can be made to cover the subject of puerperal fever but some of the very first principles of preventive technic can be mentioned. The cases most apt to be contaminated are the ones being treated in general hospitals or by general practitioners. In visiting patients the obstetrical cases should be seen first and the first ones to be seen should be those free from temperature. Any patient having a temperature of 100.4 degrees longer than 48 hours or giving other evidence of infection should be isolated if in a hospital and one should be careful about properly cleansing one's hands after visiting such a patient. No one should come in contact with an obstetrical patient if he himself has an infection such as an infection of the upper respiratory tract, cough, boils or any surface infection. Any infection on any part of the patient's body should also be carefully treated and she should be taught the necessity of proper care. The external genitalia should be carefully sponged and showered with some mild germicidal solution after each urination or evacuation of the bowel and the patient should be taught to do the same. After getting about she should continue this as long as any amount of vaginal discharge exists. She should not take tub baths until after four weeks using a shower from the second week on or sitting over the water on a stool in the tub. She should not be given any vaginal douches. Nothing should enter the vagina until six weeks have elapsed and then only in the absence of vaginal discharge.

Every case of puerperal infection should have her own nurse. The general policy of treatment is non-interference. She should be in the Fowler position. An ice bag can be kept on the lower abdomen. Ergot may be given several times a

day. The perineal stitches if badly infected should be removed to increase drainage. The uterus should never be invaded even though there is retained membrane or placenta in the uterine cavity except in cases of dangerous hemorrhage. Vaginal examinations should be avoided. If the case becomes chronic and the infection localizes operation or drainage is occasionally indicated. Everything possible should be done to increase the general health of the patient through sleep, the relief of pain and an abundance of food and fresh air.

Chronic pelvic cellulitis is the most common type of infection which we see. The patient may never have fever or may have only low fever a short while. She makes a very slow recovery, has pelvic pain, and may be as long as months or even years before feeling strong and vigorous. The treatment is the same as that for the more severe types of infection. Strict asepsis will prevent the majority of these cases.

There are two other very common sources of fever:—one, infection of the breast, the other, infection of the kidney. Breast infections are most likely to occur after the second week but may occur at any time. The most common type is a general mastitis with chill and a high fever which is generally of short duration. The other type where the infection localizes may originate with a general mastitis. A great many infections of the breast are hemogenic, possibly from bacteria entering the blood stream through the birth canal. However, the mother should be taught to use an exaggerated degree of cleanliness about her nipples, keeping them covered with sterile gauze and avoiding touching them with her fingers, also allowing the baby to nurse only twenty minutes to avoid trauma and cleansing them before and after each nursing. If pain, redness, lumps and temperature develop she should tighten the breast binder, limit her liquids, apply either heat or ice, discontinue nursing the affected side for at least twelve hours and be in bed in order to avoid moving the breast. The majority of the cases of generalized mastitis are of short duration but are rather severe in effect while they last. Nursing may be resumed in most cases after twelve or twenty-four hours regardless of the temperature or other conditions and the breast is then watched for the development of pus. It is generally at least forty-eight hours before an abscess develops depending somewhat on the

depth of the infection and the size of the breast. During such time the patient should be kept quiet and almost continuous heat applied. Thorough and extensive drainage is indicated. Best results at drainage are obtained where general anesthesia is used in order that thorough exploration can be made.

Pyelitis during the first two weeks is not rare. Here, too, the cause is probably bacteria in the blood stream and their origin may be the birth canal. The principal contributing cause is lack of drainage probably due to pressure on the ureter at the pelvic brim by the heavy uterus or kinking of the ureter following the emptying of the large pregnant uterus. A parturient woman in the early weeks with no pelvic findings or breast symptoms and running a hectic temperature with chills and some tenderness over either kidney should be catheterized and the specimen examined for pus.

Forced fluids, posture and a urinary antiseptic should be tried for two or three days if the symptoms are not severe. Large doses of urotropin and sodium acid phosphate seem to give better results than the alkalis during the first few days of the attack. If the findings are alarming, however, or if moderately severe cases do not yield within three days, a ureteral catheter should be inserted and allowed to remain from 12 to 24 hours. The kidney should then be catheterized and drained about every 48 hours until a sterile specimen of urine is obtained.

The most important process which takes place in the parturient woman is the involution of the uterus. It normally occupies from 8 to 12 weeks. The principal part of the involution takes place during the first 6 days. It is of shorter duration in women who nurse their babies. In fact, there is such a condition as lactation atrophy of the uterus due to continued stimulation which takes place during nursing. The condition of subinvolution is a rather common one and may be a very important factor in delaying the recovery of the woman. It may even for months have an influence on her general health. The four things which most disturb the involution of the uterus are: *first*, infection, *second*, activity, *third*, retroversion, and *fourth*, lack of nursing. Infection we have already discussed. The uterus situated as it is, can easily be disturbed by the patient being in the upright position. It is indicated, therefore, that she remain

in bed most of the time during the first three weeks. During that time she should have some one to care for her baby during the day and night. After that period of time her activity should be increased very gradually and she should not be doing everything she was accustomed to do until at least eight weeks have gone by. Many menstrual troubles and some of the disorders of the menopause are due to the fibrosis which results from disturbing the involuting uterus. She should sit up some from the third day on and lie on her abdomen each day for at least an hour as both these positions promote drainage and help to keep the uterus forward. Some obstetricians have their patients assume the knee chest position for a short time each day from the third day on.

Retroversion occurs in about 20 per cent. of all parturient women. Dr. W. C. Danforth and the writer in reviewing 1,000 cases of pregnancy found that it occurred 188 times in 1,000. It was found in 59 cases on the twelfth day postpartum, a fact which speaks very favorably for a careful vaginal examination under aseptic conditions at that time. A uterus which has been retroverted before pregnancy will almost invariably retrovert during its involution. The influence which retroversion has on involution is probably due to the passive congestion which it causes. The involuting uterus is quite apt to retrovert due to its weight and the relaxed condition of all of its supports. If a patient has been known to have a retroversion before pregnancy or if such a tendency is discovered at the examination on the twelfth day she should be instructed to take the knee chest position at least twice daily for ten minutes and to spend considerable time on her abdomen. We were able to demonstrate correction of the position in 24 out of 59 such cases, or 40 per cent.

Every patient should have a careful pelvic examination about the time when involution would be complete. This should always include examination of the cervix with the use of the vaginal speculum. If a tendency to retroversion exists she should be examined at the sixth week postpartum, otherwise the eighth week is the most suitable time. If the uterus is found to be retroverted it should be replaced and a pessary inserted to remain for a period of two months. She should return in one week to make sure that the pessary is doing its work and again at the end



of the first month to have it cleaned. Correcting a retroversion will generally promote involution.

If the patient has symptoms of subinvolution such as prolonged or irregular bleeding, extreme weakness and backache she should be instructed to take more rest and ergotin may be prescribed several times a day in 2 grain doses. No local treatments should be given until after the sixth week. Generally tampons of very thick glycerite of boroglycerin every day or every other day repeated six or eight times will dehydrate the boggy uterus and give relief. This same treatment may also help to relieve some of the tenderness in the vagina if present and thereby help to prevent the development of a dyspareunia. Hot long douches should be used at the same time.

The cervix many times shows erosion and ectropion at eight weeks. Those patients should be asked to return in a few weeks and if the condition still exists the cervix should be cauterized with a fine electric cautery making several deep radial cauterizations in each lip. They should return about every seven to ten days to have the vagina and cervical os cleaned out and 2 per cent. mercurochrome solution applied to the healing area. The effect of douches following the use of the cautery is questionable but better results seem to be obtained where 5 per cent. soda solution has been used as a douche once or twice daily during the month following cauterization. Sex trauma should be avoided for two or three weeks. Cauterization is generally followed by copious vaginal discharge and sometimes a little spotting of blood. The full effect is not obtained until after one to three months have elapsed. Occasionally a second cauterization is necessary.

Following delivery the bowel is apt to be very sluggish. An enema every 48 hours until the patient is up and about seems to take care of this condition very well. Enemas should not be given at more frequent intervals unless there is distress or some very good reason. There is no good reason why the patient should be given an obnoxious dose of castor oil on the second or third day. Mineral oil and diet will as a rule enable the patient to discontinue the use of enemas after two or three weeks. She should be cautioned against their continued use.

The mental condition of the patient should be carefully watched. The pediatricians have

established a rather complicated routine for the care of babies and many times this routine becomes quite a burden to the patient especially if she has not been well prepared for it. Many women permit the complicated routine care of the baby to occupy too much of their attention. They are unable to look at their task from a broad view point and find themselves paying attention to various parts of the aseptic technic in connection with the baby to such an extent that they neglect themselves. This is especially true of first pregnancies. It seems to be a general tendency at present for women to attempt to do everything that we are accustomed to find men doing instead of training themselves for the tasks which they were originally intended to do.

In the last two weeks I have seen two cases of nervous exhaustion in women whose babies were from two to three weeks old due almost entirely to the fact that their tasks to them seemed absolutely unconquerable. Many of our women have become accustomed to doing other things rather than attending to the problems of the home and therefore the confinement which a new born baby necessitates causes them to become actually ill. This same mental attitude also many times causes an inability to supply the necessary nourishment which the infant should have. We should therefore not only pay attention to their physical welfare but we should also help them to provide the necessary help at home in the way of practical and trained nurses, and we should make it a point to give them sufficient instruction to enable them to maintain their own self confidence.

The majority of all cases of puerperal psychosis occur in women with some mental weakness. A history of some insanity or mental weakness in the family can be obtained in most cases. Pregnancy causes a strain on the individual allowing this mental defect to appear. We should not disregard complaints of mental distress. Women with any history of insanity in the family should be especially watched. Such cases of insanity should be placed in the hands of a neurologist. The baby should be weaned.

The nursing mother needs to pay very little attention to the articles in her diet. Except in very rare cases she can eat the things she likes or has been accustomed to. She should not force herself to eat an extra large amount of food.

It will not have the desired effect, that of increasing the milk. It will only tend to put fat on her own body. She should drink a fairly copious amount of fluids. Thoroughly emptying the breast each nursing will stimulate the breasts more than anything else.

Two general diseases which are very prone to occur within the first few months following delivery are tuberculosis and thyroid toxemia. If a woman has given a history of tuberculosis or comes from a tuberculous family or if she has had any signs of chronic bronchitis with temperature during pregnancy, she should have an abundance of food, outdoor air and rest, during at least three months following the birth of the baby. The most important of these is rest in bed.

Carl Henry Davis has shown that cases having some tendency to thyroid disturbance during pregnancy are prone to develop a toxic thyroid gland during the first six months following delivery. These cases should be watched carefully. They should be asked to return to the office at regular intervals during that period of time.

The general muscular development of the patient can be greatly improved by systematic exercise and these exercises can be started in a mild form during the fourth week, by having the patient take her exercise lying on her back on the floor. The patient should be taught that corsets following delivery are only a temporary measure and that if she will gradually increase her exercises and use her abdominal muscles her abdomen will soon return to its normal condition. The importance of these exercises being taken systematically should be emphasized.

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## FUNDAMENTALS IN THE FEEDING OF UNDERWEIGHT CHILDREN\*

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Not many years ago the problem of nutrition rested on the daily consumption of protein, fat and carbohydrate in such amounts that the twenty-four hour ration would total a requisite number of calories. It was known that more calories were required if much physical work was done, also that water and inorganic substances

were necessary, and that children have relatively higher caloric requirements than do adults. Since then, the nutrition laboratory discovered that not all food-stuffs in a certain class have equal value, that some proteins are inferior to others, that their value for growth and tissue building varies with the amino-acid content. More recently, the importance of the accessory food substances, vitamins, Fat Soluble A, Water Soluble B, Water Soluble C, and Fat Soluble D (anti-rachitic vitimine) was discovered. A well balanced diet should contain these and about four times as much carbohydrate as protein or fat, and about equal amounts of protein and fat. Children's diets must contain proportionately more protein than adults', for the building-stones, amino-acids, are most essential for the growing organism. Meat and milk contain abundant amino-acids which enter into synthesis of the protein of body cells. In estimating the value of any diet one must remember these facts, also, that its utilization by the body is never complete, but varies with the food-stuff, the digestion and assimilation powers of the individual.

The importance of a properly adjusted diet, ample rest and restricted daily routine are seldom sufficiently emphasized in the treatment and cure of a number of otherwise chronic or progressive ailments. These valuable therapeutic measures have long been employed, however, in the treatment of tuberculosis. Czerny of Berlin has such confidence in his five meal, high fat and protein diet in the treatment of tuberculous children, that he once made the claim that no tuberculous child in his clinic had ever developed miliary tuberculosis. Pirquet in his recent book on diet, says: "All the cures which, in the course of time, have been advised for tuberculosis, culminate in the therapy of feeding. Patients sent to the seashore, mountains, desert, or warm valley, all have in common good food and rest. . . . Children must remain at table until all food is eaten. . . . The increase in weight of malnourished children on a five meal diet is usually very great in the first month, and after that lessens slowly." He concludes this chapter by saying: "The results have been so satisfactory that all other methods of treatment have been omitted."

The alarming incidence of physical unfitness among our young men during the draft, the simultaneous "discovery" of the "neglected" preschool child, and the valuable contributions on

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vitamins and diets from the experimental laboratories of nutrition led the pediatrician, school physician and health worker, about a decade ago, to focus their attentions on underweight children. Nutrition clinics, "malnutrition" classes and school lunch-clubs soon had their inception, and have done excellent, pioneer work in the improvement of the nutritional state of many underweight children. Excellent treatises by Emerson of Boston, Charles Hendee Smith of New York and Kaiser of Rochester (New York) show what can be accomplished with large groups of underweight school children. The technique evolved by the clinicians Emerson and Smith was followed by Kaiser, who, now, questions the permanency of the results obtained.

In the latest edition of "Newer Knowledge of Nutrition" McCollum says: "The system of diet which can be confidently recommended with assurance that it will go a long way toward improving the physical fitness of the nation is a very simple one. . . . It includes the best elements from those several systems of diet which have been thoroughly tested in human experience, and have been found successful." He recommends that every daily ration should include a quart of milk, some leafy vegetable and some raw fruit or vegetable. The remainder of the food-supply may safely be derived from any of our ordinary cereals, tubers, sugar and meats. To this should be added for children, cod liver oil and outdoor exercise in the sunshine. He reiterates, that we should not be content to speak about a "normal" diet, but should recommend "optional" diets. This is especially true when we deal with underweight children. An extensive investigation, conducted in a large institution for colored children found most of them malnourished, and that they were being fed a diet which was deficient in quality, and in quantity. His conclusions are: "improvement of the dietary is of the greatest significance for the welfare of a large percentage of American children of the present generation. His experiments prove that butterfat and egg-yolk fat contain the unique dietary property which greatly promotes growth. Also, that milk and leaves of plants in a diet correct the defects of cereals, tubers, roots and meats. The discovery of these "protective foods" about 1915 opened a new era in nutrition. Terman, a year before, came to the conclusion that one out of every ten school chil-

dren was suffering from a grave form of malnutrition. Despite the increasing application of this new knowledge of nutrition during the following years, Leete's summary in 1921 shows that 15 to 25% of American school children are still suffering from malnutrition.

(Cross in 1923 states that: "Investigation has shown that 96 per cent of the children coming to this country from the southern part of Europe have sound teeth, while it is well known that the teeth of 96 per cent of American children are defective. The trouble lies in great measure in faulty nutrition during prenatal life, infancy and childhood. A satisfactory diet is essential for the development of a sound set of teeth." Investigators have repeatedly pointed out that we derive a relatively larger part of our diet from refined cereal products, sugars, muscle meat and potatoes, a combination of foods which does not support satisfactory development, longevity, and fertility in animals studied experimentally.)

Improvement of the nutritional state of underweight children is one of the most important tasks of the practicing physician, not because parents realize that something should be done if a child is appreciably underweight, but because it not infrequently is the physician's most potent weapon in the prevention and treatment of a number of otherwise chronic ailments. Underweight children with disease of the heart, blood, urinary system or gastro-intestinal tract, including acidosis and diabetes should not be treated by these methods, as they usually require special diets and therapeutic measures. On the other hand, malnourished children with tuberculosis of the lymph glands, pleura, bones and joints; children with insufficient or improper food or rest; anorexia, the result of improper environment; goiter, without increased metabolic rate, secondary anemia and tardy rickets, yield the best clinical results. In fact, frequently, the weight increase and improvement of the pathological condition are coincident.

During the past five years we have used a vitamin-rich, 5 meal diet in several hundred children with the above enumerated ailments. If the regimen is consistently followed for several months, the results are usually so striking that the diet and rest must be given the credit for the improvement. In contrast to other established methods, it might be called an individual, intensive method, for each child is started on the

diet as soon as a diagnosis is made. With the aid of a special note book, containing a list of 100 calorie portions, the mother or nurse can readily compute the daily food intake. A two-day record each week aids in determining the quality and quantity of food eaten. If there is no progress, or if the underlying condition warrants it, the patient should be seen oftener than once a month. Children not confined to bed should indulge in the proper kind of exercise and play. Most of these children should be up less than ten hours a day. The rules we attempt to enforce are as follows:

1. The cooperation of the patient, with the parent and the physician is important.

2. The quantities of food should be governed by the age, digestive capacity and appetite of the child.

3. The child must consume enough of proper food each day to insure a consistent gain in weight.

4. No food should be served ice-cold.

5. Milk may be flavored with sugar, malted milk, cocoa or vanilla.

6. Ample rest (breakfast and supper in bed), fresh air (window open at night), sunshine (sunbaths before the noon meal on warm days) stimulate the appetite, digestion and assimilation.

7. No food and very little water should be given between meals.

Smith's figures on 110 children in the nutritional class at Bellevue Hospital showed that 57 per cent gained on a 3 meal diet 1.7 times the average rate for their ages. The tuberculin test was positive in 54 per cent of his cases. His best case showed a gain of 12½ lbs. in six months. Most of his patients came from New York City's tenements, but he had the aid of trained nutritional workers in the homes, and such incentives as photographs before and after, prizes and rewards helped to keep up the interest of parents and children. The average gain in our last thirty children, suffering with the above enumerated ailments was over eleven pounds for the three month period of intensive feeding—about 5 times the average rate of gain. Fifty per cent of our patients had a positive tuberculin reaction. Our best case showed a gain of 19 pounds in three months. These results were due to the fact that in the evolution of our technique the principles advocated by Czerny,

Pirquet, McCollum, Emerson and Smith were incorporated. To bring a child's weight within normal limits for height and age and to keep it there is not only a prophylactic measure, but a potent therapeutic aid in the treatment and cure of a number of otherwise chronic ailments.

## THE VALUE OF UROLOGIC STUDIES IN THE DIAGNOSIS OF ABDOMINAL CONDITIONS

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With the advent of mechanical aids and the advancement in diagnosis both in the chemical and roentgen laboratories, urology has been the last of the important specialties of medicine to be placed on a firm footing and has eventually been accredited by its ability to clarify many puzzling clinical pictures.

Only to mention the new adjuncts to diagnosis at our command—cystoscopy, ureteral catheterization, the shadowgraph catheter, x-ray alone or in conjunction with the latter, urography including pyelography and cystography, blood chemistry and renal functional tests.

Among a group of one hundred cases in the medical or surgical wards of a general hospital, it is safe to say that fully one-third require urologic study to round out the complete diagnosis. Reference is not made, of course, to those outspoken cases which readily and properly group themselves into other special departments of medicine and surgery. For example, fully twenty-five per cent. of patients affected with stone in the right ureter coming to our service at the hospital or in private practice had been previously operated upon for appendicitis, without relief of their symptoms.

Ureteral stricture is much more frequently diagnosed today than formerly and even the "doubting Thomases" in the specialty now accord the condition an important place in urological pathology. Women especially, suffering from ureteric strictures, present themselves finally to the urologist after having undergone repeated faulty diagnosis and not uncommonly one or more operations of either the gastro-intestinal or genital tract. The symptomatology of this condition is so variable that it will bear more detailed description. The pains or discom-



fort complained of may be referred to any anatomical location from the right hypochondrium to dragging pains in the legs. Often no symptoms are referable to the urinary tract whatsoever, and sometimes they may be transient and apparently insignificant. Again the symptoms may be referred to the gastro-intestinal tract and be confused with and perfectly simulate gastric or duodenal ulcer. Another patient may complain of attacks which apparently are pathognomonic of gall-bladder disease. Often the symptoms are referable to uterine or adnexal inflammation and relief is sought by gynecologic operation. Not uncommonly the symptoms cannot be classified as likely due to pathology in any one organ or tract and the patient just complains of loss of strength and weight, general lassitude, and malaise, associated with sleeplessness. For example, a young woman, who complained of general abdominal pain, especially low down on both sides and varying in degree from a moderate discomfort to pains of such severity that analgesics of various kinds were required, entered the hospital. She had had a rise of temperature every evening for ten months. There was no loss in weight and the patient looked well. For several months she had not been able to carry on the management of her household. General physical examination revealed nothing of importance except abdominal tenderness low down on both sides. Her history was practically negative except for a Neisserian infection shortly after marriage. Her urine was perfectly clear and there had been no symptoms referable to the urinary tract. Her white blood count was slightly elevated. Urologic study revealed bilateral ureteral strictures with early bilateral hydronephroses. After twice dilating these strictures, the patient was greatly improved and her temperature for the first time in months remained normal.

Stone in the kidney may be symptomless for years and many patients, carriers of renal stones, reach their graves never having had symptoms of this condition. In many other cases the textbook description of the symptomatology of renal stone is wanting. The characteristic colic, with the appearance of macroscopic blood in the urine does not occur. These patients, however, may complain of epigastric pressure, general or local abdominal pains, nausea, vomiting or heartburn,

and their condition is diagnosed as either gall-bladder disease, chronic appendicitis, colitis or just a nervous gastric disturbance. There is no doubt that any or all of the above-mentioned pathologic conditions can be found in conjunction, in certain cases, with renal stone, but at the present time the findings in any of these conditions are sufficiently familiar to the painstaking doctor, so that by a process of exclusion a proper diagnosis should be reached. A urologic study in ninety-six to ninety-nine per cent. of cases will solve the question because we can deposit an opaque substance upon a suspected stone in the pelvis of the kidney, even in those rare cases where the stone itself is not dense enough to cast a shadow. Here the great variance in work in the different x-ray laboratories is an important factor.

Certain non-surgical renal conditions are often the underlying cause of symptoms, suggesting inflammatory conditions within the peritoneal cavity. This group may often require the aid of urologic study to clear up the diagnosis and experience has shown that the pathology may just as often be in the gastrointestinal tract causing urinary symptoms as the converse. A case in point: A nurse was referred to us with the diagnosis of kidney stone. She had complained of definite colic and pain along the course of the right ureter, and sought her physician's advice when she noted bright red blood in the urine. The urinalysis done at the hospital simply recorded the specific gravity, a 1+ albumin and the presence of *many* red blood corpuscles and a few whites in the sedimented urine. Flat x-rays of the entire genito-urinary tract were negative for stone or any gross abnormalities. Cystoscopic examination was entirely negative except for very slight edema about the right ureteric orifice. There was no obstruction to the passage of ureteral catheters on either side. She complained of no pain at the time of examination but was tender on deep pressure anteriorly in the appendix region. Urine examined while still in the cystoscopic room showed an occasional red cell but quite a few granular and hyaline casts. Her blood chemistry showed a slight retention of nitrogen end products. The diagnosis of nephritis secondary to appendicitis was suggested and the request made that a complete gastro-intestinal x-ray examination be made. This revealed

a pathologic retrocecal appendix. In line with this it might be mentioned that not uncommonly acute appendicitis may occasionally show blood in the urine by producing a ureteritis by contiguity. The symptoms then may closely simulate ureteral stone. In this type of case I feel that if the diagnosis is not clear between appendicitis and ureteral stone, one should err on the side of considering the lesion of appendicitis and remove that organ rather than to take the chance of a possible rupture of the appendix with its often serious outcome.

Pyonephrosis, pyelitis, pyelonephritis and tumor of the kidney are frequently mistaken for lesions within the abdominal cavity and the correct diagnosis of any of them should be made correctly if not rapidly with our newer facilities. Only last month an old man of seventy was seen who complained of pain in the left hypochondrium. He also felt a mass in that region which apparently had been increasing in size. He was gradually getting weaker and preferred to remain in bed the greater part of the day. The spleen could be readily palpated and extended three fingers breadth below the costal arch. It was distinctly tender to pressure. There were no red cells found in the urine on repeated examination and there were no striking changes in the urine; an occasional cast and a trace of albumin which could be easily accounted for at his age. There was no tenderness in the lumbar region and the kidney as such could not be made out on palpation but one could feel that whatever the tumor mass anteriorly was, carried the impulse of pressure to the lumbar region. Roentgen study of the gastro-intestinal tract revealed incomplete filling of the splenic flexure and the roentgenologist reported tentatively a diagnosis of tumor of the spleen. A barium enema distended the previously noticed defect in the filling of the colon. A pyelogram was made which showed a definite filling defect in the lower major calyx, and a diagnosis of inoperable tumor of the lower pole was made, probably hypernephroma. At operation all structures contiguous to the left kidney were found so adherent one to the other that the kidney could not be outlined even with the hand in the wound. The wound was closed and the old man went home last week where he may possibly carry on for three or four months more. The pyelogram conclu-

sively made the diagnosis in this case.

One could continue almost indefinitely and enumerate cases of obscure abdominal pains which were finally properly interpreted after complete urologic study.

In the field of gynecology does the urologist find pathology which either occasions urinary symptoms or the converse. Recently we examined an unmarried woman of thirty-eight who complained of pain low down on the left side. There had never been any infection and rectal examination by her gynecologist had revealed no palpable pathology in the uterus or the adnexa. Cystoscopically one could make out an extravescical tumor encroaching on the bladder from behind and compromising the left ureter. A catheter passed into this ureter was obstructed about 4 cm. above the orifice. Examination under anesthesia was suggested and a fibroid uterus was determined. There had been no menstrual changes to call attention to this organ.

It may be interesting to note that dermoid tumors containing either bone or teeth have in two instances been diagnosed roentgenologically as ureteric stone.

Congenital anomalies of the kidney, especially horseshoe kidney has frequently been the source of error in abdominal diagnosis. Especially when the kidney was dysopic has much difficulty been encountered in diagnosing the condition which presented itself as a tumor mass, which suddenly with the onset of infection, occasioned symptoms. Urography will if called upon usually clarify the situation.

Lesions of the prostate and seminal vesicles, from a gonorrheal inflammation to carcinoma, may produce symptoms of such severity and divergence that almost any symptom complex may be perfectly simulated. A study made some years ago of seminal vesiculitis, revealed the most surprising results and led me to believe that no other pathologic entity had been the source of so many mistaken and bizarre diagnoses. A rectal examination will usually, if made intelligently, prevent such errors.

The crises of *tabes dorsalis* may simulate any of the acute abdominal conditions and innumerable mistaken diagnoses and ill-advised operations have been the result. The cystoscopic findings when present in *tabes* are very characteristic and may appear very early, often before



some of the better known cardinal symptoms. Here again a urologic study can be of great value.

Tuberculosis of the kidney and the bladder are two conditions which if not sought for intelligently may escape notice. They are less likely to be confused with lesions of the gastrointestinal or genital tract than some of the others mentioned, but not uncommonly masquerade under symptoms referable to these systems.

A complete survey of the many pathological conditions met with in our work has not been attempted, nor an attempt to interpret the various signs and symptoms encountered, but I have merely tried to emphasize the value of urologic study in differential diagnosis, as a few characteristic slides will demonstrate. However, all these technical methods of examination will not and should not displace a most careful and precise history-taking and physical examination, which after all are the criteria by which a medical man is best judged.

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## DIAGNOSIS AND TREATMENT OF GALL BLADDER DISEASE

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Recent progress in our knowledge of the anatomy and physiology of the gall bladder has greatly broadened our conception of biliary tract disease and its close relationship with other organs. The result has been that we no longer look upon the gall bladder as an isolated field but we must regard it as a part of a system which includes the stomach, duodenum, pancreas, appendix, colon and liver. This broader conception is supported by recent researches dealing with the lymphatic supply of the gall bladder. Studies have shown that there is a rich lymphatic anastomosis between the liver and gall bladder thus providing a direct avenue by which infection from the duodenum, appendix or colon may travel by the portal vein to the liver and then to the gall bladder by this lymphatic tract. There is also a direct lymphatic anastomosis

between the gall bladder and the first portion of the duodenum and an indirect lymphatic connection between the gall bladder and cecum. That infection may easily travel along this lymphatic route is easily seen when we remember that the most intense involvement in early disease of the gall bladder is in the subserosa of this organ where the lymphatic supply is the richest. The intimate lymphatic anastomosis between the liver and gall bladder may also serve to maintain a vicious circle in which the liver and gall bladder constantly reinfect one another with the result that the infective process becomes persistent.

Further consideration of this extensive lymphatic anastomosis between the gall bladder and other abdominal viscera helps to explain the frequent association of gall bladder disease with such conditions as peptic ulcer of the stomach or duodenum, chronic appendicitis, pancreatitis and various disturbances of the colon. It focusses our attention to the possibility that simply drainage or mere removal of the gall bladder alone may not be sufficient to clear up all the symptoms if other organs in its lymphatic environment are also involved. Such a conception will help to explain the apparent failure after surgery of the gall bladder. The persistence of symptoms need not be due to a faulty diagnosis or unnecessary removal of the gall bladder; it may be due to secondary involvement of other organs such as the appendix, pancreas, colon or duodenum. It is only by directing attention to these residual foci of involvement and by treating them correctly after cholecystectomy that a complete cure may be hoped for.

Another feature which is of great practical importance is the ease with which an incorrect diagnosis of atypical chronic cholecystitis may be made or the possibility of laying too much stress on the gall bladder as the sole cause of the symptoms. Dyspeptic symptoms with vague tenderness in the right hypochondrium, a positive van den Bergh when it is not considered in relation to other clinical findings, or indefinite roentgenological evidence in the absence of definite clinical manifestations are pitfalls which may result in incorrect diagnosis. We believe that the diagnosis of chronic cholecystitis is rapidly replacing the hackneyed diagnosis of chronic appendicitis as a waste basket of uncertainty and

that many operations are performed for supposedly chronic cholecystitis when the evidence is misleading or incorrectly interpreted. It is needless to add that there is often no relief after operation and that the degree of involvement of the gall bladder may have been too slight to cause the clinical symptoms or that the seat of the trouble was elsewhere than in the gall bladder. The discouraging results after cholecystectomy, *especially when no stones are present* have been reported by E. S. Judd<sup>1</sup> and several other observers and corresponds to our experience. We feel that removal of the gall bladder alone, if no calculi are present, is only a part of the treatment of chronic cholecystitis and that post operative management should be directed to the other viscera previously mentioned if we wish to eradicate the entire pathological condition.

The early diagnosis of disease of the gall bladder and the correct appraisal of the actual distress caused by this organ are matters of considerable difficulty in cases of non-calculous chronic cholecystitis. There is no short cut and we must make use of the history, physical findings and results of laboratory examination. It is easy to make a correct diagnosis of gall stones in the presence of a typical attack of biliary colic and jaundice but great difficulties are encountered when the history consists of vague pain or oppression in the abdomen, belching, heart burn, flatulence and when physical examination reveals indefinite tenderness in the gall bladder region. The situation is more complicated when other viscera are apparently also involved. Symptoms pointing to an abnormal condition in the colon, stomach or appendix may cloud the diagnosis when in reality the manifestations are those of co-existing pathology in these regions.

The earlier clinical evidence of gall bladder disease will depend greatly on whether the septic, mechanical or dyspeptic manifestations dominate the field. The diagnosis can be more easily made if septic phenomena such as fever and leukocytosis are associated with findings in the right upper quadrant of the abdomen. The condition will be still more easily recognized if the mechanical results such as biliary colic or jaundice are present. The greatest difficulty is encountered when dyspeptic symptoms are in the foreground. Such dyspeptic phenomena are often found in stout female patients of middle

age who have borne children but our experience has shown that such symptoms often go back to the first pregnancy and that the gall bladder is often involved in younger patients. Diabetes or glycosuria is not an uncommon finding and may be due to an associated involvement of the pancreas as pointed out by F. H. Lahey<sup>2</sup> and by W. H. Barber<sup>3</sup> who found pancreatic changes in 36 per cent. of all patients operated on for gall bladder disease. The dyspepsia is variable even in the same patient and there are usually no definite periods of complete, seasonal relief such as occurs in uncomplicated peptic ulcer. Remissions may occur but they last a very short time. There may be a history that the symptoms began shortly after or during pregnancy or that the distress became worse during that time. Such information is of considerable value. The distress often comes on immediately after meals and is not relieved by food or soda. The diagnosis is aided if the course is punctuated by periods of biliary colic or septic phenomena. Jaundice is a very valuable sign but is not common in chronic cholecystitis. According to J. Forman<sup>4</sup> jaundice was present in 17 per cent. and a similar incidence was found by us to occur in a study of a series of 100 proved cases of gall stones.

A determination of the bilirubin content of the blood serum may be of value to detect incipient jaundice which cannot be seen with the eye. The normal ratio of bilirubin to blood serum is 1 to 400,000 and the normal icterus index is 4 to 6. A very definite increase in either may be good evidence of a mild degree of jaundice but great care must be used in the evaluation of these results as disease of the pancreas as well as gastric or duodenal ulcer may cause a moderate increase in blood serum bilirubin. The presence of urobilinogen in the urine in abnormal amounts is good evidence of liver injury and may be considered in relation to biliary tract disease, but here too, care must be exercised in excluding hepatic disease due to other causes.

Cholecystography is undoubtedly the most important recent advance in the diagnosis of gall bladder disease. It is based on the principle that phenolphthalein preparations are excreted chiefly in the bile and that these substances may be used as vehicles to transport some radio-opaque material such as iodine or bromine. So-



dium tetraiodophenolphthalein is such a combined substance and may be given intravenously or by mouth. Three conditions must be met before this dye is excreted in sufficient concentration into the gall bladder thus making it opaque to the Roentgen rays.

1. The liver function must be good enough to excrete the dye from the blood into the bile.

2. The passages from the liver to the gall bladder must be patent.

3. The concentrating function of the gall bladder must be good enough to abstract sufficient water from the contained bile so that the dye in the gall bladder is very concentrated.

Since normally, if the gall bladder is healthy, all these conditions are fulfilled and the dye reaches bile in the gall bladder and is there concentrated, the gall bladder will cast a shadow on the Roentgen film. The presence of such a shadow of normal contour and appearing after a normal period is evidence that the gall bladder is normal anatomically and physiologically. An absence or distortion of the gall bladder shadow usually signifies some pathology. The value of this method lies in the fact that it furnishes evidence of the *condition of the function* as well as of structure. The results reported from many observers, numbering many thousand cases are very encouraging. Sufficient time has elapsed to establish the procedure on a firm basis. All reports agree that the diagnosis is correct in the vast majority of cases operated on, most observers stating that operation corroborated the findings in 90 per cent.

Sufficient time has not yet elapsed for us to know how early gall bladder disease may be recognized by the aid of cholecystography. Undoubtedly the disease process must be present for some time before the test becomes sufficiently definite, but experience has shown that a great number of cases have been diagnosed by the aid of this procedure when the history and physical examination were too vague and these were unquestionably recognized at a much earlier period than they would have been without the aid of these measures.

The treatment of cholecystitis with or without gall stones is surgical. Medical and dietetic measures may aid in diminishing the severity of the attack but can hardly be considered as a direct means of combating infection of the gall

bladder and biliary passages. Infection is the most important element in cholecystitis and is probably chiefly responsible for the chronicity and the development of complications, particularly in the liver. The findings of S. H. Mentzer<sup>5</sup> are of interest in this connection. He found that the appendix was involved in 68% of a series of patients operated on for gall bladder disease and that peptic ulcer of the stomach or duodenum was present in 29%. E. A. Graham<sup>6</sup> found involvement of the liver in the vast majority of cases. Cultures from the bile and wall of the gall bladder are also of interest. N. von Hedry<sup>7</sup> obtained a positive growth in 63% of diseased gall bladders removed at operation. E. S. Judd<sup>1</sup> made cultures of the gall bladder wall of gall bladders removed at operation and obtained a positive result in 29%. The observations show the futility of so-called medical drainage of the gall bladder with the duodenal tube.

Cholecystectomy is the logical procedure when it is possible to perform it. But careful search must be made for associated pathology and the post operative course must be closely followed if good results are to be obtained.

#### RESUME

1. The rich lymphatic anastomosis, either direct or indirect, between the gall bladder and other abdominal viscera such as the appendix, liver, pancreas, duodenum and colon show the importance of considering the gall bladder as only a unit of a system closely connected by the lymphatic supply.

2. Such a conception may explain why apparent failure sometimes follows simple cholecystectomy. The symptoms may have been due to pathology of greater degree elsewhere or to residual foci left in other organs.

3. The poorest results are obtained after operation for chronic cholecystitis without calculi because the foregoing conception is not widely entertained.

4. There is a growing tendency to replace the time worn diagnosis of chronic appendicitis by chronic cholecystitis when the evidence is vague or incomplete.

5. An early diagnosis may be made only by carefully considering the history, physical findings and laboratory results.

6. The most important recent advance in diagnosis is cholecystography.

7. Surgery is the logical method of treatment as infection exists in the gall bladder wall as well as in the bile. Post operative care should be directed to possible residual foci in the liver, duodenum, pancreas and colon.

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## A NEW SELECTIVE POINT FOR AMPUTATION OF THE INDEX FINGER

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*Introduction.* It is the purpose of this paper to show that when it is necessary to amputate the index finger, at or between the second phalanx and the second metacarpal bone, the specific point of amputation should be located at the centre of the middle third of the second

many authorities,<sup>7</sup> on surgery of the hand. To depart from the orthodox or conventional manner of doing a thing, more often invites criticism rather than investigation. The beliefs and opinions which guide our actions are not always founded on the adamant rock. Quite often we just merely think so. We are reluctant to depart from the well beaten way our predecessors have blazed for us, but occasionally someone strays into a by-path and makes a discovery or picks up a bit of knowledge useful to science, helpful to humanity and of economic gain. It took a long time to discover that the eye of the needle was in the wrong place, but it was finally pierced in the other end of the instrument. It was a small thing, yet it would be hard to estimate the value of having made such a change. I make these brief observations for the purpose of showing that the habits we form, the line of thought laid down to us, are so firmly imbedded in our minds, that we hesitate long before we consent to make a change, though we believe we are correct. Nevertheless we make progress and once



Figs. 1 and 2. Case 1.

metacarpal bone, in individuals possessing an otherwise normal hand; and also to give the members of the profession the benefit of my experience and observations on a considerable number of operations that I have performed on the index finger. Should the distal phalanx need to be amputated, such an operation would not come under the scope of this article. (Figs. 1 and 2, Case 1)

This operation, I am aware, is a radical departure from the present accepted treatment, by

a change is made it is generally for the better.

I am convinced that the selective point for amputation of the index finger at the middle of the second metacarpal bone, as herein explained, possesses many advantages over the present accepted classical operation for the following reasons:

1. Greater restored function.
2. Greater strength, sensitiveness and usefulness.
3. Better cosmetic results.
4. Greater economic results.



5. More easily performed, in a clean field, without complicated anatomy.

*Adventuring in a New Field.* My reason for adventuring into a new field for the amputation of the index finger came about in the following manner: Eighteen years ago I was called to treat a member of the life saving crew who was acting in the capacity of surfman. This man, aged 30, was stationed at an isolated point twenty-five miles from my office. The accidental discharge of a gun he was handling blew off his index finger at the middle of the second phalanx bone. Being a firm believer in the teachings of John B. Murphy relative to the early use of anti-tetanus in every case of gun shot wound, and being unable to obtain the serum for several days,

cerned. It may be of interest to state that the patient upon whom I operated developed such a perfect cosmetic and functioning hand that, in a service which requires perfect physique, he was gradually promoted until now, and several years past, he has been a Captain in the United States coast guards, and is now considered one of the most efficient, in this service, on the great lakes.

It is my object to show in a concise manner several reasons why the present classical operation should be abandoned and to present an operation that would give much better results. By means of descriptions, photographs and schematic drawings I hope to convince the surgeon and the layman of the necessity of obtaining a more



Figs. 3 and 4. Case 8.

I decided to remove the finger in a field free from infection, where the wound would heal by primary intention and also be free from the liability of developing tetanus. The results obtained proved to me to be of scientific value by observing the dynamometric readings of both hands, and the final results astounding. The dynamometric reading on the hand operated upon showed 440 as compared to 320 of the normal left hand. The two major functions of the hand were practically restored, viz., strength and sensitiveness. The operation as performed then, and many times since, has shown the same uniform results in every case; increased strength, sensitiveness, practically normal usefulness and of great economic gain to all con-

selective point for amputation; an operation that is easily carried out, practically free from complicated anatomy, thus securing for the patient a stronger and a more useful hand. It has been a common slogan among surgeons, in amputating the index finger to save as much of the finger or every scrap of tissue, as possible, as the smallest portion that can possibly be saved is of value to the patient. As a result of such teaching and practice, many irregular operations have been performed which terminated in useless or poorly functioning fingers, besides, in some cases incapacitated hands. (Figs. 3 and 4, Case 8.)

A review of the literature would lead one to believe that the subject of amputation on the index finger was a closed issue; that all of value





tant factor to be considered in performing the accepted classical operation.

In performing any of the standard classical operations for amputation of the index finger, it is well to keep in mind constantly, first, a knowledge of the level of the inter-phalangeal joint; second, the arrangement of the tendons and their tendon sheaths, and to remember that they gape widely after section; third, the mode of attachment of the tendons, their action and function.

2. It might be well to point out that the flexor tendons have a fibrous sheath extending from the proximal end of the distal phalanx to the metacarpal phalangeal articulation, and that these sheaths are thin and collapsible opposite the joints, but thick and rigid opposite the shaft

by the adduction crease of the thumb. It lies wholly upon the radial side of the middle metacarpal. The space lies deeply in the palm, just above the adductor transversus. Infection having traveled in this space has very often resulted in limitation of motion of the whole hand. (See schematic drawing.) The flexor profundus digitorum is inserted into the base of the last phalanx. Fig. 5. The tendon perforates a tendon of the superficial flexor opposite the first phalanx of the index finger. It is bound to the first and second phalangeal bones by ligaments which form a sheath common to it and the sublimis tendon. *Action.* Flexion of the third phalanx primarily, and after that, flexion of the second, and slightly, of the first. *Nerve Supply.*



Figs. 6 and 7. Case 2.

of bone. The fibrous sheath is called the theca and when cut it should be closed, otherwise it may carry infection to the palm of the hand. The amount of infection in the index finger, after amputation, has a direct bearing on the success or failure of the operation, not alone on the index finger, but on the whole hand, and in many cases the whole body.

3. Most surgeons are familiar with injuries of the index finger attended with progressive infection, and the positive course which it follows. In every case when pus ruptures from the sheath of the index finger it enters the thenar space, in the area of the thenar eminence.

Superficially its internal boundary is indicated

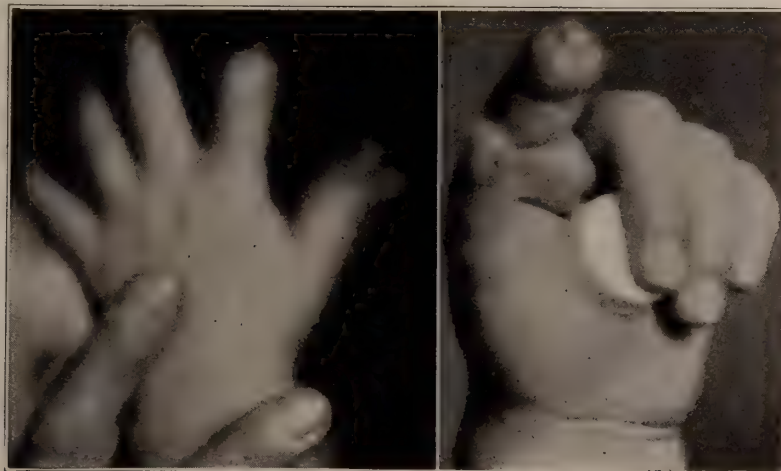
The ulnar and anterior interosseous branch of the median. The flexor profundus sends back accessory bands which are attached to the middle phalanx, almost as far as its center, and it is necessary to remember that the attachment is retained when the amputation is performed below that point, obtaining a movable joint.

W. T. Thomas<sup>4</sup> and others furnish some interesting notes on amputations. Thomas cites that he has performed many re-amputations in recent years and most often on fingers. The specific location being at the metacarpo-phalangeal joint. It is generally agreed among surgeons that the most common cause for re-amputation has been a tight scar across the bone, painful in

most cases, infection and ulcerating from tension in others, etc. The deductions were that an attempt had been made to save too much; failure to handle the tendon problem properly, or the result of faulty technic—sometimes one cause, sometimes another, and occasionally both. Thomas states that amputations through the second phalanx have good results if a good covering can be obtained, and a movable interphalangeal often obtained, owing to the tendons having insertions to the second phalanx; but an amputation to the first inter-phalangeal joint, unless the tendons can be secured over the end of the first phalanx, leaves a stump composed of the whole of the phalanx, which is hardly capable of being flexed or extended except to a limited degree and becomes a real hindrance from its inability to

stitch the flexor tendons to the periosteum. DeCosta advises, to amputate at a point where most surgeons are agreed, is the point of selection that calls for more re-amputations on the index-finger than at any other point, indicating the site is not well chosen.

Figs. 6 and 7, Case 2. Illustrates the hand of a laboring man, age 40, who had his index finger severed at the distal end of the second phalanx by a saw while working in a sawmill. Amputation was performed through the second phalanx. Fig. 3 illustrates hand opened and all fingers extended. Apparently normal extension. Fig. 4 illustrates the same hand with the patient endeavoring to flex the hand and index finger. The patient cannot flex the index finger because the flexor tendon retracted up the tendon sheath,



Figs. 8 and 9. Case 3.

follow the other fingers in opening and closing the hand. This applies also to amputations to the first phalanx. If it is found impossible to save enough tendons to suture over the end of the bone, prolong the incision, make two flaps here so as to obtain enough length of tendons and remove some of the first phalanx so as to suture the tendons over the bone. In this situation the digital nerves are distinctly seen, and it is wise to remove a piece of each, so that the end cannot be incorporated in the scar.

DeCosta advises,<sup>5</sup> when it is necessary to amputate the index finger above the middle of the middle phalanx, the attachment of the flexor tendons will be cut off and the finger will be liable to project directly backward, so that it is better to disarticulate at the metacarpal joint, or

as the tendon sheath was not properly united. The finger serves no useful purpose and is a real hindrance to the patient. The dynamometric reading is 120 as compared to 320 on the normal hand.

Figs. 8 and 9, Case 3. Show the hand of a child aged 3 years, who had his index finger severed by a meat grinder. An attempt had been made to graft the severed member. Failure to graft the severed part necessitated the completion of the amputation. The tendons retracted up their sheaths. Failure to obtain the consent of the parents to permit amputation at the center of the middle third of the second metacarpal bone compelled the surgeon, to follow the rule, save as much tissue as possible, and amputate the finger at middle of the middle third of



the second phalangeal bone. About the only thing that may be said in favor of the operation performed would be that the finger had length; other than that it served no useful purpose. Fig. 8. Shows the hand with all fingers extended. Fig. 9. Illustrates same case with patient trying to close the hand. The index finger cannot be flexed over the lozenger because the flexor tendon and extensor tendons were not properly united in the presence of an infection, and finally retracted, leaving a useless index finger, with, also, a 50% decrease of strength in the hand.

Fig. 10, Case 4. Shows the hand of a man, aged 36, who had the posterior half of the index,



Fig. 10. Case 4.

middle and ring fingers severed by a planer. Amputation took place at the second phalangeal bone on each finger. An amputation would not be performed at the second metacarpal bone, because the hand was not otherwise normal. The nature of injury permitted sufficient flexor and extensor tendons to be brought over the ends of the stubs and properly sutured. Illustration shows hand flexed over dynamometer. The picture illustrates all that the present classical operation on amputation of fingers could hope to obtain; namely, flexion and some useful function. There is, however, a 50% loss of strength in the hand.

Fig. 11, Case 5. Shows the hand of a laboring man, aged 40, whose fingers were amputated

at the distal end of the first phalanx. Dynamometric readings—110 for the injured hand and 280 for the normal hand.

Fig. 12, Case 6. Shows the hand of a man, aged 30, whose finger was amputated at the distal third of the first phalanx. Dynamometric readings—120 and 240.

Fig. 13, Case 7. Shows the hand of a man, aged 26, whose index finger was amputated at the middle third of the first phalanx. Dynamometric readings—180 and 320.

Cases 5, 6 and 7. Figs. 11, 12, 13 demonstrated stumps of index fingers which are hardly capable of being flexed or extended, except to a limited degree, and they are certainly a real hindrance to the patient from their inability to follow the other fingers in opening and closing



Fig. 11. Case 5.

the hand; furthermore, they add no strength to the hand and are devoid of any cosmetic value.

Figs. 3 and 4, Case 8. Show the hand of a skilled laborer, aged 30, who received an injury to the index finger, attended with infection. Amputation was performed at the metacarpophalangeal joint. Fig. 1. shows the hand of the patient endeavoring to extend the fingers. Infection having travelled along the tendon sheath to the thenar space, necessitated opening, attended with limitation of motion of the middle finger, thus preventing complete extension. Fig. 2 shows the hand in complete flexion, attended with considerable limitation of motion. Dynamometric readings—120 and 320. This patient was paid for the loss of a finger and about a

year later had his case re-opened and was awarded \$2,500.00. The largest number of re-amputations take place at this point.

Fig. 14, Case 9. Illustrated the first case in which I selected the center of the middle third of the second phalangeal bone as the site for amputation for injuries and malignant tumors affecting the second phalangeal bone. The figure illustrated all that could be hoped to be obtained

dons, schematically, as pointed out in anatomy of the hand.

Fig. 17. Shows a schematic drawing of the arrangement of the interosseous muscles and tendons. See anatomy.

Fig. 5. Shows a schematic drawing of whole hand, with descriptions.

The simplicity of the writer's operation in a field relatively free from complicated anatomy,



Figs. 12 and 13. Case 6.

by any operation where a part was removed. The two major functions of the hand have been restored, viz: strength and sensitiveness. The dynamometric readings of the hands shows a 440 of the injured hand as compared with 320

and the completed operation meeting almost perfect attainment in function, usefulness and strength and also the hand considered from a cosmetic and economic standpoint should make it an operation of choice.

It will take considerable persuasion on the part of the surgeon to demonstrate the merits of removing the finger and part of the metacarpal bone to obtain a better hand. It may require as much persuasion, on the part of the surgeon to obtain the patient's consent for the removal of the whole finger as it once did to induce a patient to submit to an operation for appendicitis or an amputation of the leg for a diabetic gangrene of the toe.

#### SURGICAL ANATOMY OF THE SELECTIVE OPERATION

Fig. 5. The interossei dorsales<sup>7</sup> are the muscles between the metacarpal bones on the back, four in number. The first, and the largest, is called the abductor indicis. They are located between each interspace in the back. The origin is between the two bones between which it lies. Insertion is made into the base of the first phalanx, and also into the extensor tendon of the



Fig. 14. Case 9.

of the normal hand. Attention is called to the cosmetic result.

Figs. 15 and 16 show the arrangement of the flexor and extensor tendons; interosseous ten-



same finger, the first on the radial side of the index, the second on the radial side of the medius, the third on the ulnar side of the medius, the fourth on the ulnar side of the annularis. *Action:* each abducts from a line coinciding with the long axis of the middle finger. This digit, having two interossei inserted into it, is abducted toward the radial side by one, and toward the ulnar side by the other, thus, each in turn becomes an abductor, for the finger abducted by one is then restored to the midline by the other. *They also flex the first phalanges and extend the second and third.* *Nerve.* The deep branch of the ulnar. Adductor pollicis—the ad-

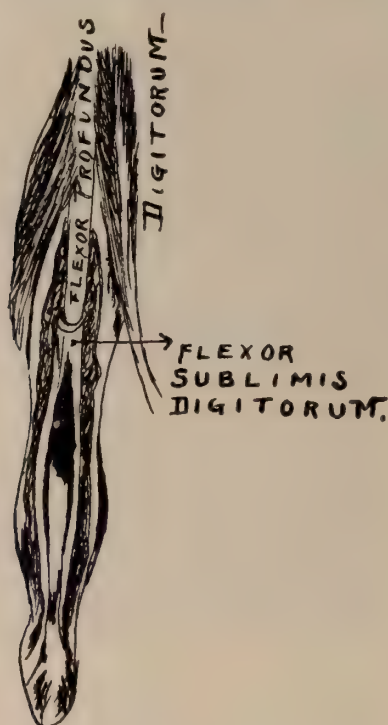


Fig. 15.

ductor of the thumb. *Origin*—One head; os magnum, bases of the second and third metacarpals, and the annular ligament; the other head; the lower two thirds of the third metacarpal. *Insertion*—the inner side of the base of the first phalanx of the thumb, in common with the inner insertion of the flexor brevis pollicis. *Action*, adduction and flexion of the thumb. *Nerve*, the ulnar.

#### SELECTIVE OPERATION. THE AMPUTATION OF THE SECOND METACARPAL BONE AT ITS MIDDLE THIRD

Proper asepsis. An incision is made over the

second and first phalangeal bones and as far as the middle third of the second metacarpal bone. The tissues are retracted exposing the first dorsal interosseous, severing it at its point of insertion to the first phalanx of the index finger. Complete the incision in the form of Malgaigne's racket, which is somewhat Y-shaped, its long arm being on the dorsal surface. The soft parts are carefully separated, and the metacarpal bone severed with a wire saw or a bone forceps. Care should be exercised not to injure the palmar arch, which crosses on the palmar side of the bone near its proximal end. The tendons are brought into view and severed. Fig. 5. The first dorsal interosseous tendon is sutured, with

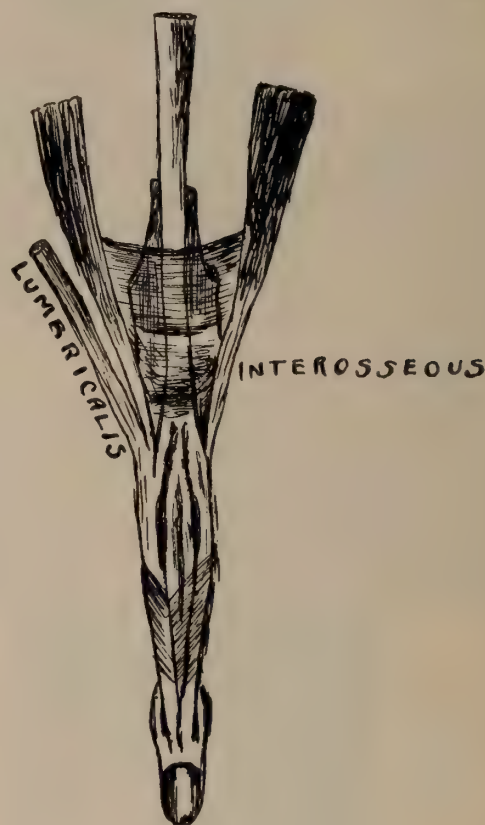


Fig. 16.

silk, to the second dorsal interosseous, at its point of insertion. Bleeding is prevented by forceps pressure. Tissues are properly approximated and sutured with horse-hair or dermal. The completed operation should be attended with a clean wound, without tension, perfect asepsis, simple hemostasis, and an operation attended with very little trauma. The operation secures the major function of the hand—namely—strength, motion and sensation. The operation

being performed without inflammation prevents limitation of motion. The median nerve being severed high up allows the middle finger to carry on the specialized function of the index finger. It is important that the manual worker have sensation in the hand, especially so if the area is in the distribution of the median nerve, as it constitutes the principal part of the hand. It has been pointed out by Bunnell, that the severance of the volar nerve at the base of the finger results in anesthesia of that half of the finger on its volar surface and in the last one or two distal segments on its dorsal surface. The severance of the index finger interferes to some extent with the sensation in the pulps of the index finger on account of its specialized use. With the loss of some of the tactile sense, a worker finds difficulty in picking up small ob-

seous to the insertion of the second interosseous and the comparative length of the middle finger over the index finger increase the leverage of the hand; also, greater work put on fewer fingers causes the fingers to develop according to the law of accommodation. The fingers will apparently over develop. The dynamometric reading will show a higher reading in the hand with four fingers than a hand with five fingers. It is a well known fact that the loss of an eye, a limb or a finger tends to develop more strength in the remaining eye, limb or fingers. Thus if nature had provided man with but two fingers in each hand, these two would no doubt be as strong as the entire five on each hand. Strength is not as essential as efficiency on the average. The crab, a member of the lowly order of crustaceans, exerts a relatively tremendous pressure

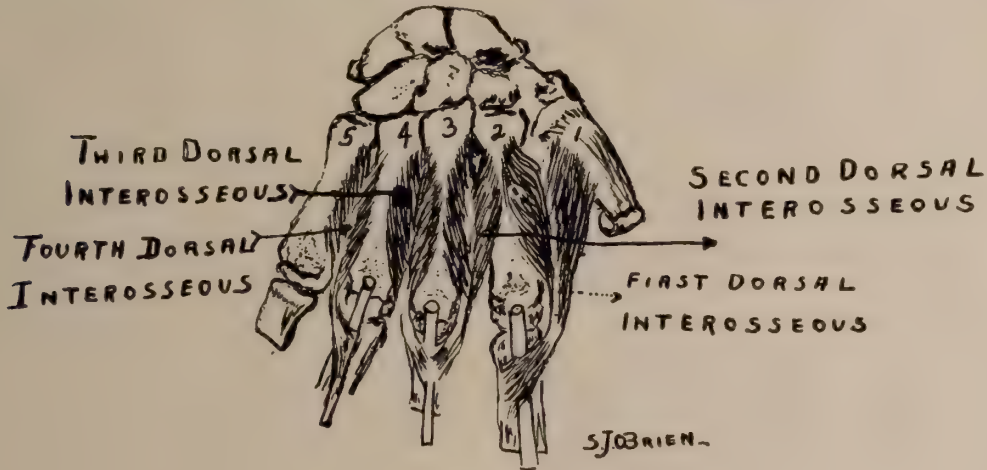


Fig. 17.

jects, even when the classical operation has been performed perfectly. With the severance of the median nerve the joint sense also suffers and he is somewhat awkward and at times fumbles. The loss of function of the nerves of the finger is of vital importance. Removing the index finger with part of the metacarpal bone, permits the middle finger to take on the activities of the index finger to such an extent that there is no apparent loss of function manifested in the hand. *Usefulness.* There being no stub it is possible to perform practically every kind of labor that an individual might perform with his whole hand. *Strength.* It is an interesting fact that a hand operated on in the manner given, has greater strength than one that had not been operated on. Suturing the first dorsal interos-

seous with but a small pair of pinchers. Nature makes provision for all strength required and efficiency as well, thus the loss should neither impair efficiency or strength. There should not be any great disfigurement, if the interosseous tendons are properly placed and the basic principles of aseptic surgery carried out.

*Economically.* Under the Workmen's Compensation Act, an injured employe receives for the amputation of the index finger, thirty-five weeks compensation. If the finger is not amputated, but is crippled and no loss results therefrom, the injured employe receives nothing except medical and hospital treatment. If, however, disability results to the extent that the injured employe cannot resume the special employment he was engaged in at the time of the in-



jury, then the employe is entitled to a total compensation of five hundred weeks, and a maximum of \$7,000.00; the rule being that the loss of the use of a member is not the same as loss of the member but the ability to earn in like or similar employment is a true measure of damages. If the employe can resume like or similar employment the measure of damages is compensation at the rate of sixty per cent. of his average daily wages for the actual time he was disabled from his employment, with a waiting period of eight days deducted.

I have left the economic value of the proposed operation until the last as there are some who can see a subject only from the standpoint of dollars and cents. The selective operation should be accepted on its merit, because the operation is performed in a clean field free from infection, a field where the avenues of infection are practically closed and furthermore, a field where there is no direct communication between the tendon sheath of the finger and the synovial sheath of the wrist.

The operation performed without inflammation prevents limitation of motion or loss of function to any of the other members of the hand. The operation should be one of choice in compensable amputations of the index finger for the reason that when the employe is compensated according to law, the case should remain closed and the employe would draw no further compensation. In cases of skilled employes after the first adjustment is made it would remain a closed issue. Many cases of skilled laborers, who have been compensated for the loss of an index finger have had their case re-opened and have drawn large sums of money from their employer, because the stump was troublesome or because an infection had travelled along the tendon or tendon sheath to the thenar space, necessitating opening of the hand, attended with inflammation, later limitation of motion, thus preventing the skilled employe from performing like or similar work and was compelled to resort to common labor. Case 8. (Figs. 3 and 4.)

Removing the finger with half of the metacarpal bone would give the employe a stronger and a more serviceable hand, with possibly a few exceptions. The operation should have a two fold value. The employer would be pleased to

close his case and believe it was permanently closed, and be able to determine the cost for once and all; the employe would be able to return to work more quickly, assisting his employer, also satisfied with his immediate and adequate settlement, not being compelled to pay any great attorney fee, and also, satisfied to have a hand capable of performing practically every kind of labor that he had done with his normal hand.

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## TWO CASES OF DIABETES\*

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CHICAGO

The first patient, a woman, was admitted to the hospital in September in diabetic coma. She had been failing since May or June. On entrance she weighed 74 pounds, and presented the usual symptoms of diabetic coma. She was given large doses of insulin and the sugar disappeared. Then an attempt was made to increase her weight. The first diet consisted of 1,700 calories and this was increased until she was receiving 4,500 calories. During this time she was in bed with an icebag to her heart and neck. Her weight increased four pounds. She presented the classical signs of thyroid disease and was operated on December 2. Following the operation she had a rather stormy time. Within ten days her weight went up to 81 pounds and she continued to gain until at present she weighs 116 pounds. She is sugar free on a dosage of 40 units of insulin in the morning and 35 in the afternoon and her diet consists of 2,482 calories.

The second patient, a man, presented a very unusual set of findings. At the age of 19 he had rheumatism involving practically every joint. During this time he was delirious and injured his foot in some way so that gangrene developed. The history is not very clear at this point. The condition resembles somewhat a Raynaud's disease but lacks many of the classical symptoms. In the spring of 1924 he was

\*Presentation of Clinical Cases before North Shore Branch Chicago Medical Society, March, 1926.

admitted to the Evanston Hospital with a diagnosis of diabetes. Under dietetic management and insulin he made a satisfactory improvement. In the spring of 1925 he again entered the Evanston Hospital; at this time he was constipated, could not get enough to eat, and had pains in his legs. He was given an enema, following which he developed an uncontrollable diarrhea. This has continued to the present time. He entered St. Francis Hospital a short time ago markedly emaciated and with a return of the diabetes. Investigation showed that different types of food had no effect on the diarrhea. x-ray examination of the gastro-intestinal tract showed the material passing through very rapidly. Proctoscopic examination was entirely negative. Because of the presence of hypospadias it was impossible to examine the genito-urinary tract. Finally the conclusion was reached that his trouble was due to the nervous innervation of the gastro-intestinal tract. He had a high metabolic rate, a pulse rate of 120 and so a thyroidec-tomy was performed. Since operation he is somewhat improved.

There was no question about the patient having had a toxic thyroid. He had a profound stimulation of the entire sympathetic nervous system. He still has a disturbance in the blood vessels and diabetes.

## A COSMETIC MASTOID DRESSING FOR WOMEN

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After an uncomplicated mastoid operation, the patient is generally well enough in a week or ten days to be ambulatory. The wound, however, may require dressing for a month to six weeks after; and though the patient may be otherwise quite well, the conspicuous bandage interferes naturally with even minor social activities.

As illustrated in the accompanying photograph, women can by the use of a scarf effectually conceal even the most elaborate head and mastoid bandage. As in this case, the scarf can be selected to match the woman's costume with a very excellent effect. For variety at

least another scarf will probably be desired to go with various changes of apparel.

After the change of dressing in the office, the



Fig. 1. A cosmetic mastoid dressing.

woman adjusts the scarf in a few minutes before the mirror. It is placed around the forehead, twisted in back, brought up over the head, and ends in a bow on one side.

25 E. Washington St.

## CHRONIC OTORRHEA

ITS RESPONSE TO CALOT'S SOLUTION\*

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The question of successful management of chronic aural discharge confronts both the general practitioner and the otologist so frequently as to place it upon a dignified stand in the realm of medicine. It, as with other chronic conditions that are so difficult to contend with, is a source of discouragement to the physician and patient alike. The vague prognosis, and the potential sequelae in the form of a cholesteatoma, facial palsy, labyrinthitis, sinus thrombosis, meningitis, brain abscess and finally the handicapping auditory deficiency that may occur, all serve as an incentive for determining some efficacious therapeutic approach that in the past has been but partially realized. Paralleling other pathologic conditions that respond so poorly to our efforts, the condition has been subjected to an attack of an imposing array of therapeutic procedures. A perusal of the standard texts and the verbose literature upon the subject will disclose an innumerable variety of medicinal agents, such as antiseptics of every known class, astringents and caustics of various types, powders of many kinds and many combinations of the above in the form of ear drops, all serving

\*From the clinic of Drs. J. C. Beck and H. L. Pollock.



as a good indication of our therapeutic impotence.

A great deal of the unsuccessful results are due no doubt to superficial treatment which is dependent upon a poor conception of the basic pathology that underlies the persistence of an aural discharge. It is admitted that a great percentage of the acute suppurative otitides undergo spontaneous resolution and healing, this being most frequently the case in the ordinary acute catarrhal middle ear inflammations complicating an acute naso-pharyngitis. Here the acute lesion is confined to the mucous membrane of the tympanic cavity. However otitis complicating scarlatina, measles and typhoid is notoriously difficult to heal and is frequently followed by a chronic discharge. In these cases the lesion is deeper seated, invading the submucous layers and even the underlying bone of the tympano-mastoid cavity. Here the mucosa may be destroyed with the formation of ulcerations and the destruction of the membrane may impair the integrity of the underlying bone, as the mucosa of the tympano-mastoid is anatomically a muco-periosteum from which the bone derives its blood supply, thus laying the basis for a chronic osteitis with its accompanying discharge.

The virulence of the offending bacteria is frequently the deciding factor in the extent of the infection and destruction, this being best exemplified in a case of streptococcus mucosus infection with its well known tendency towards rapid and extensive pathology. In those instances which proceed to relatively quick recovery, the ulcerations and the denuded bone are covered by granulations which serve as a base for the reparative ingrowth of the surrounding epithelium. In some cases the osteitis is of such an extent that local necrosis and fistula formation occur. Here chronic infection plays a major role and nature responds by the over-production of hypertrophic granulations. The condition of bone necrosis associated with excessive granulation formation is probably the most potent factor in the continuance of an otorrhea in those instances not due to cholesteatoma or chronic osteitis of the mastoid bone. The hypertrophic granulations prevent the ingrowth of the surrounding mucosa and the overgrowth of the granulations may be such as to fill the entire cavum and even project into the external meatus

forming the so-called aural polyp. True polypi from a strict pathologic point of view are rarely if ever found in the middle ear, as Wagenhauser<sup>1</sup> has pointed out that aural polyps are always composed of granulation tissue and never show the histologic picture of a myxomatous structure. The granulations are the source of a thin secretion which in the presence of the usual secondary infection seen in practically every case, becomes purulent in nature. As long as the granulations continue to grow unchecked and the infection persists, healing cannot occur and the discharge will continue.

The Eustachian tube may also be a factor in the production or maintenance of a chronic otorrhea. As is well known, the normal patent tube may serve as a means of drainage of the middle ear secretions into the naso-pharynx. Frequently, however, the pharyngeal orifice may be occluded by a hypertrophic adenoid structure or by enlarged lymphoid follicles in Rosenmüller's fossa or even in the salpingal mucosa itself. Less frequently posterior turbinal hypertrophies or synechiae following adenoidectomy may cause tubal closure. Paradoxically a patent tube may be the source of a discharge which will be found to accompany every acute rhinitis. The discharge is in reality a pseudo-otorrhea and is due to an overflow of secretions and inflammatory exudate from both the tube itself and the naso-pharynx through the middle ear and thence by the tympanic perforation into the external canal. This pseudo-otorrhea which has a characteristic mucoid appearance is a type that is so frequently observed occurring in a well epidermized radicle mastoid in the presence of an acute rhino-pharyngitis.

Cholesteatoma and chronic infective mastoiditis are prolific offenders in the causation of an otorrhea, but as their treatment is strictly surgical they are but mentioned in brief. Local pathology due to malignancy or rare infection as with actinomycosis, and local manifestations of systemic disease as tuberculosis, lues or diabetes are also mentioned in passing. From the above one may readily see that chronic infection, excessive granulation formation, osteitis with fistula formation and tubal disturbances are the leading factors in the maintenance of a chronic otorrhea and consequently any therapeutic measure in order to be successful must be able to cope with them.

Chronic osteitis with fistula formation is notoriously difficult to heal in other parts of the body and the same holds true for the mastoid portion of the temporal bone. One may by analogy compare the discharging ear to either a fistula leading to carious bone or a fistula in ano. In one we observe a fistulous tract leading from the skin to carious bone, that is from the external meatus through the perforation in the drumhead into the granulation lined cavum to the carious bone of the ossicles or the tympanum. In the other we observe a fistulous tract leading from skin to a mucous membrane, that is from the skin of the meatus through the perforation via the cavum and Eustachian tube to the mucous membrane of the naso-pharynx.

Fotiade,<sup>2</sup> who lays great stress upon the pathologic similarity depicted above, was struck by the remarkable success that he witnessed at the Filantropia-Spital in Bukarest in the treatment of fistula in ano with a mixture known as Calot's solution that is composed as follows:

Guaiacol .....	1.0
Creosote .....	5.0
Ether .....	30.0
Iodoform .....	10.0
Olive Oil .....	70.0

The pharmacodynamics of the mixture was investigated by Copen, Fussinger and Laurance,<sup>3</sup> who attributed to the iodoform, guaiacol and creosote a caustic action upon the granulations in addition to their antiseptic properties. The ether served the purpose of dissolving these secretions that covered the granulations and so allowed the more active constituents a more intimate contact with the pathologic tissue. Furthermore, the instillation of the mixture caused an active diapedesis of the polymorphnuclear leucocytes, thus increasing bacteriolysis. They also state that the disintegration of the leucocytes releases their content of proteolytic and lipolytic enzymes to aid the bacteriocidal activity and destruction of the granulations. They observed a marked change in the character of the discharge, which under the influence of the mixture changed from that of a thick mucoid appearance to a thin and serous nature. The secretions increased in amount and showed decided changes in the microscopic picture. The bacteria and few mononuclear lymphocytes so characteristic of chronic aural discharge soon

disappear and it shows instead large numbers of polymorphnuclear leucocytes and no bacteria.

In a series of 64 cases Fotiade was enabled to obtain a complete cure in 61, or 95 per cent. Of the remaining cases one died of tuberculosis, one was lost sight of and one not responding to therapy required a radicle mastoid operation. We have not been quite so fortunate. In 81 cases of otorrhea selected for treatment we obtained a cure in 66, or 81 per cent. The cases were grouped as follows:

1. Otorrhea; no mastoid involvement shown by x-ray .....	31
2. Otorrhea with mastoid sclerosis shown by x-ray .....	38
3. Cholesteatoma .....	12
Total .....	81

Of those cases listed in class 1 all were cured, although a tonsillectomy and adenoidectomy was performed in nine of the cases.

In class 2, thirty-five were cured and three cases associated with a discharge of long duration and exhibiting marginal perforations but no clinical evidence of cholesteatoma required a radicle operation. In addition attention to the naso-pharynx was required in six cases; tonsillectomy in four instances and breaking up of postadenectomic adhesions about the tubal opening in two cases.

In class 3 not one was benefited in the least, although Fotiade has reported definite cure in cholesteatoma. The odor, however, was rendered less offensive.

Audiometric records controlling the effect of the treatment upon the hearing showed only moderate gains in the majority of cases and this feature will be reported in detail later.

The treatment consisted of simple cleansing of the ear, mainly by the use of tubular suction. The patient was then instructed in the use of the medicament. He was told to carefully shake the bottle and with the head bent to one side with the affected ear uppermost to instill 5 to 10 drops of the solution into the canal. The opening of the canal was then closed by pressing the tragus against the canal wall and bringing alternate pressure to bear upon it, so as to effect a pumping action upon the mixture, thus causing it to be forced into the cavum. If this is properly performed and the Eustachian



tube is patent the patient will taste the medicament in his throat. This is performed nightly for a week, and no other attention is required, when the patient is again observed by the otologist. At this time the secretion will have changed from a thick, ropy, to a thin, serous nature. At this stage the medicament is discontinued and insufflations of boric powder used. After a few days the ear will appear dry. Those cases that do not succeed at the first trial require attention to large pouting granulations or investigation of the naso-pharynx. In the former local applications of 60 per cent silver nitrate may reduce the granulations to such an extent as to allow of the successful use of the mixture. In the latter appropriate surgical intervention may be necessary.

#### Conclusions:

1. Calot's solution is an efficacious medicament when employed in properly selected cases of otorrhea.

2. That its use is rational is attested by its pharmacodynamic action upon the basic pathology underlying certain types of chronic aural discharge.

3. Most cases of otorrhea not due to cholesteatoma and not predicated upon a tuberculous, luetic, diabetic or a local malignant or actinomycotic basis, respond readily to its use.

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### AN OBSERVATION OF SYPHILIS AND ITS TREATMENT IN PATIENTS ADMITTED TO A TUBERCULOSIS SANITARIUM\*

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*Introduction:* The ubiquity of tuberculosis and of syphilis as separate and distinct diseases is well known. In view of the prevalence of these infections there should be no surprise that a certain percentage of the tuberculous have syphilis and vice versa. The possibility of the co-existence of these two common maladies should be kept in mind by every clinician, for

it is only then that the dual infection will be recognized and coped with intelligently. Elliott,<sup>1</sup> Marshall.<sup>2</sup>

The controversy in methods of diagnosis and treatment of syphilis in the tuberculous has been bewildering, almost chaotic. The diversified opinion as to the presence of syphilis is pivoted around the Wassermann reaction. Some investigators contend that a positive reaction is in itself undecisive; Pottenger,<sup>3</sup> Keys,<sup>4</sup> Petroff,<sup>5</sup> Mitchell,<sup>6</sup> while others contend the contrary. Corper, Gekler and Sweany,<sup>7</sup> Snow and Cooper,<sup>8</sup> Ford,<sup>9</sup> Kilduffe,<sup>10</sup> Kolmer.<sup>11</sup> The specific treatment of this dual infection likewise reveals differences of opinion. Potter,<sup>12</sup> Hartley,<sup>13</sup> Schlomovitz,<sup>14</sup> Carter,<sup>15</sup> Bowman,<sup>16</sup> Babcock,<sup>17</sup> Bine,<sup>18</sup> Ornstein.<sup>19</sup>

The clinical entity of pulmonary syphilis, because of its close clinical resemblance to phthisis and its established rarity, as some text-books lead us to believe, is still in oblivion; and is commonly undiagnosed; moreover, often erroneously diagnosed as tuberculosis and treated non-specifically. Lyon,<sup>20</sup> Councilman,<sup>21</sup> Munro.<sup>22</sup> Other observers believe that pulmonary syphilis is more common. Rukstinat.<sup>23</sup>

The importance of a routine Wassermann test in tuberculosis, as verified by various authors, is with a sound foundation. Pritchard<sup>24</sup> states that in a review of 406 tuberculous patients from 3% to 4% showed positive reactions, Conner found in a study of 547 males 9% positives, and of 380 females 8% positives. Corper, Gekler and Sweany in their observation of 1,395 male patients found 7.2% positives, and of 1,399 female patients 5.8% positives. Our observation of 1,460 patients showed 8.3% positive reactions. The observation was studied still further and it was found that approximately 5.4% of the positive Wassermanns had a positive sputum, while 2.9% had a persistently negative sputum.

In order to ascertain the reliability of the complement fixation test not only were the sera routinely examined but repeatedly so and provocative tests done on all questionable reactions. The results thus obtained were as follows: Of 36 positive sputa patients, 78% showed a persistent positive reaction, and of 22 negative sputa patients 73% were persistently positive; thus corroborating first the fact that positive reactions in open cases are essentially as accurate as in

\*This observation was made possible through the courtesy of Dr. R. W. Dunham, Former Medical Director.

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negative sputum cases; and secondly, that such percentage of persistent reactions falls well into the realm of feasibility in the non-tuberculous.

*Diagnosis:* The diagnosis of a dual infection is based on the presence of a positive sputum or definite findings of tuberculosis with or without concomitant symptoms and findings of syphilis plus a persistent positive Wassermann test of the blood or spinal fluid. The diagnosis of syphilis of the lung is encountered with more difficulty and dispute for its clinical resemblance to tuberculosis is astounding.

The symptomatology of lung syphilis is characteristic. Dyspnea is the most frequent complaint. (Thompson,<sup>25</sup> Robinson.<sup>26</sup>) The patient complains of what he terms asthmatic attacks. On closer questioning it is revealed that these paroxysmal attacks come on at night usually while at sleep with a smothering sensation and a gasping for air with inspiratory difficulty.<sup>27</sup> These attacks are sometimes so severe and prolonged and so dramatic that morphin is necessitated for relief. At other times the patient is awakened with a paroxysmal cough.

In our observation of 14 patients having a constant positive reaction with negative sputum 71% presented the characteristic symptoms; while of the 23 with positive sputum only 17% had these symptoms. Such symptom syndrome, if in the presence of a negative sputum and if confirmed by other concomitant symptoms or findings of syphilis or a persistently positive Wassermann, is pathognomonic of pulmonary syphilis. The therapeutic test is the confirmatory procedure.

The physical findings may simulate that of tuberculosis, but usually the large sonorous rales are heard at the base and are commonly unilateral. Unlike pulmonary tuberculosis, roentgenologic studies show that syphilis usually tends to invade the lower and middle lobes and to involve the tissue of the hilum first so that the densest shadow is there, diminishing toward the periphery. (Watkins,<sup>28</sup> Baum.<sup>29</sup>) Repeated plates must be taken before and after antiluetic treatment to determine definitely whether certain shadows may be interpreted as luetic.

The pathology of tuberculosis is commonly demonstrated on the post-mortem table; while that of pulmonary syphilis very much less commonly. Osler<sup>30</sup> states that in 2,800 postmortems at Johns Hopkins Hospital there were 12 cases

with syphilitic disease of the lungs; in 8 of these the lesions were in congenital syphilis. Fowler was able to find only 12 specimens in the museum of the London Hospital of the Royal College of Surgeons. Carrera<sup>31</sup> in Warthin's laboratory found 12 cases among 152 necropsies.

The pathologic changes may be in a form of a solitary gumma, diffuse syphilitic fibrosis, or a diffuse syphilitic broncho-pneumonia. Secondary involvement of the pleura may give rise to a syphilitic pleuritis.

The differential diagnosis of pulmonary syphilis requires a careful study and an inherent ability to evaluate all clinical, laboratory, and roentgenologic findings at hand. Pulmonary tuberculosis or its complications are differentiated by sputum examinations and x-ray findings. Asthma, unlike pulmonary syphilis, is characterized by an expiratory difficulty; furthermore, x-ray and serological findings may help to differentiate them. Cardiac asthma is characterized and thus differentiated by its systolic hypertension. (Pratt,<sup>32</sup> Longcope.<sup>33</sup>) Aortic aneurysm and tumors of the lung may be distinguished by roentgenogram shadows and physical findings; pneumoconiosis by the occupational history and physical findings of a deep immobile and silent chest. Cardiac decompensation should give no difficulty nor should pneumonia. Pulmonary abscess and bronchiectasis should be ruled out on the basis of the history, amount and character of the sputum, together with roentgenological and serological findings.

*Treatment:* The question of treatment in the tuberculous with syphilis is mooted. Ehrlich originally included advanced cases of tuberculosis among the contra-indications. Subsequent observations, nevertheless, show that with care such individuals need not be deprived of salvarsan. In an analysis of 375 cases treated with salvarsan, Sieskind<sup>34</sup> states that he has treated patients with hemoptysis and with phthisis in varied stages without ill effect, and always with general improvement and increment in weight.

The treatment of lung syphilis is undisputed. Neosalvarsan given intravenously is the choice treatment. Mercury and iodides if used as adjuncts should be employed with caution. Patients with a dual infection or with a definite pulmonary syphilis alone and who have either a favorable or guarded prognosis<sup>35</sup>, should be given the benefit of anti-luetic treatment. An



unfavorable prognosis is the only definite contra-indication. Hemorrhage cases should be given small doses and over prolonged intervals. It is even advisable to discontinue the treatment for the time being. In our series we were not able to observe any patients with nephritis either before or after treatment.

**Results:** Our results with the use of neosalvarsan thus far are as follows: Out of 26 patients with a double infection, 12 were classed with a favorable prognosis, 8 guarded and 6 unfavorable. Of the favorable class 83% improved, 8.5% were unimproved, and 8.5% died. Of the guarded class 50% improved and 50% died. Of the unfavorable class 67% died, 16.5% unimproved, and only 16.5% improved. Only 3, or 11.5% of this series of cases had hemoptysis after treatment was instituted.

Of 17 patients with repeatedly negative sputum and positive Wassermann, 10 were classed with a favorable prognosis, 2 guarded, and 5 unfavorable. Of the favorable 90% were improved, 10% were unimproved. Of the guarded class 50% improved and 50% unimproved. Of the unfavorable class 20% died, 40% unimproved, 40% improved. Only 1, or 5.9%, of this series had hemoptysis. There was an amelioration in the severity and frequency of the characteristic symptom syndrome in all patients treated. The serological results in those treated showed that 21% of the total 43 cases became negative. The 19 patients who were not treated, strange to say, showed a parallel clinical course as did the treated; however, none, needless to say, developed a negative Wassermann or showed the spectacular abeyance in the pathognomonic symptoms.

#### SUMMARY

1. Syphilis and tuberculosis do co-exist.
2. The Wassermann test in the tuberculous is as reliable as in the non-tuberculous.
3. Repeated complement fixation tests should be done routinely.
4. Syphilis of the lung is more common than pathologists lead us to believe.
5. There are definite clinical, physical and roentgenologic findings to make pulmonary syphilis a distinct clinical entity.
6. Neo-salvarsan should be given to all patients having a definite positive Wassermann with or without symptoms of syphilis.
7. An initial unfavorable prognosis is the

only contra-indication for the use of anti-luetic treatment.

8. The use of neo-salvarsan mitigates the severity of the characteristic symptoms syndrome, and renders an appreciable percentage of positive Wassermanns negative.

9. The much feared symptom of hemoptysis is no contra-indication for the use of anti-luetic treatment.

10. Further careful study of the subject of syphilis in the tuberculous and lung syphilis as an entity is the hope of the writer.

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## IS MEDICAL LEGISLATION NECESSARY?\*

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One would think that this question requires no discussion and take it for granted that medical laws are essential for the protection of the public health.

We have heard it maintained by certain men and women, who are apparently sane on other subjects, that it is not necessary for the State to adopt safeguards and license only those who have prepared themselves by education and training to treat the sick; but that the practice of medicine should be free to all, and that competition will eliminate the unfit.

These misguided people maintain that all laws for the regulation of the practice of medicine are in the nature of a monopoly and are advocated for the purpose of forming and perpetuating a medical trust.

These same people who clamor for so-called freedom in the practice of medicine would be reluctant to risk their lives in a trip across the ocean if the captain and the pilot of the vessel had not had a thorough training and had passed a rigid examination to make certain that they were competent to do their work.

Nor would they wish to ride in a train if the engineer had had no training and knew nothing of the mechanism of the locomotive.

Even in plumbing we demand experienced men who by examination have shown their competency to do their work properly.

What a hue and cry would be raised if incompetent and unlicensed men were permitted to make up prescriptions in drug stores. Why should the practice of medicine be an exception? Should we not remonstrate against ignorant men and women attempting to cure diseases of which they know nothing?

Should they be permitted to tinker with the human body without any knowledge of its structure or of its functions?

The proposition to permit every ignoramus to meddle with the human body is not a whit more absurd than to permit any one who knows nothing about navigation to pilot an ocean greyhound from one continent to another.

The human body is a much more complex organism than the finest ocean liner and it more often requires more brains and ingenuity to steer a diseased body back to health than it does to steer a steamer across the ocean.

We thus see of what great important medical practice laws are for the protection of the public.

Scientific physicians are in favor of medical legislation purely from altruistic motives. That this statement is true is apparent to any unprejudiced mind who has had access to the truth in the matter.

The medical profession is working unceasingly for the prevention and cure of disease. Its members have expended untold labor and thought in discovering and perfecting measures and methods for the prevention of disease and to mitigate the severity and limit the spread of infectious and contagious diseases. Obviously that has not been done, nor is being done for selfish purposes of **financial gain**.

We demand medical practice laws not for the mercenary motive to augment the emoluments of our professional services, nor to protect ourselves against competition, but solely for the protection of the lives and health of the people against ignorant and incompetent pretenders.

At every session of our State Legislature it becomes necessary to oppose the passage of proposed laws, which if put on the statute books would be inimical to the public health. These proposed laws are initiated and fostered by the members of the various cults and isms. What they desire to bring about is a license to treat the various diseases and ailments of mankind without acquiring the requisite preliminary knowledge and training. The members of some of these cults expend much time and money in an effort to induce our state legislators to give them the privilege to inflict themselves on an unsuspecting public without the necessary knowledge of anatomy, physiology, chemistry, bacteriology, physics, pathology, surgery, obstetrics, gynecology, neurology, internal medicine, etc., to obtain the degree of M. D.

What is the use of spending precious time, money and gray matter in mastering the curriculum in a medical college when all you need to do is to append some cultist nomenclature to your cognomen and you are privileged to treat

\*Address of President Madison County Medical Society, June 10, 1927.



all of the various and sundry ailments of mankind.

Should not everyone have this privilege in this so-called free country? And should not the public have the privilege of choosing whomever they wish to treat their infirmities?

No, the dear public is not competent to choose between the erudite medical adviser and the ignorant, blatant pretender.

In matters medical public opinion is worthless. Disease processes are entirely too complex to be understood by the average intellect without special knowledge and training.

Not only is the public incompetent to decide what is best in medical matters, but it is an untrustworthy judge of its foods. The rascalities that were perpetrated upon a long suffering public prior to the passage of the Pure Food and Drug Law by the aid of disinfectants and deodorants is known in detail only to the unscrupulous food purveyors.

It is in the interest of the public health and the general welfare that Pure Food and Drug Laws and Medical Practice Laws are enacted. If these laws were abolished the country would be over run with ignorant, blatant quacks, and impure foods and drugs would be sold indiscriminately.

In a Utopia laws of this kind may not be necessary, but at the present stage of our civilization we need strong, rigid laws regarding the manufacture and sale of foods and drugs and the practice of medicine and surgery.

Notwithstanding these obvious truths, some of the cults are actively and perniciously engaged in an effort to nullify the laws regulating the practice of medicine in so far as these laws apply to their particular and peculiar methods of treating diseases.

The medical profession has no objection to the treatment of certain functional ailments or pathological conditions by the aid of massage or manipulation or suggestion. But what it demands is that those who profess to treat diseases in this manner shall have the necessary knowledge of the human body and its diseases, unless these methods of treatment are under the supervision of those who have this requisite knowledge.

Anyone who has no knowledge of the diagnosis of disease is not competent to decide when to treat abnormal conditions by these methods and when not to do so.

I have personal knowledge of cases, in which hip joint disease, caries of the spine and acute arthritis were zealously manipulated and mal treated under the fallacious and proposterous theory that these diseases were caused by subluxated vertebrae or pinched nerves somewhere along the vertebral column. Only harm and in some cases irreparable harm can result from this inexcusable ignorance.

There is another cult which maintains that medical practice laws are an abomination and that medical science is all wrong. This cult masquerades under the guise of a religion and claims that disease is a figment of the imagination and can be cured by a jumbled up prayer. This sect attempts to elevate its insanities upon a religious pedestal and then absurdly contends that medical practice laws interfere with religious freedom.

To find a parallel to this ancient superstition one must go back to the Zulu witch-doctor and the witch-doctors of the Australian aborigines. That is back to the lowest level of human culture. The intensity of this belief at the level of the Zulu or of the Australian aborigines shows that it was the general belief of the human race a hundred thousand years ago.

All over the world and all through history this primitive superstition still lingers.

This psychological rubbish belongs to the chaos and darkness of the Middle Ages when the learning of man was all but barren of practical results; when the mind of man was preoccupied with trifles of theology and weird and fantastic speculations about an unknown and unknowable future. During this dark period the world dwelt in ignorance, superstition and poverty and the mind of man was not impressed with the simple viewpoint of utility.

The superstition of the Dark Ages under a new version still lingers among certain modern cults and they attempt to cure disease with a zeal worthy of medieval fanatics, by methods which amount to substantially the same thing as that of the Australian aborigines, although they do not bedeck their healers in paint and feathers but in Prince Alberts and bedside manners.

There is no truth in any of these cults beyond the truth of suggestion. Whatever good there may be in this method of healing has been practiced by the medical profession since the time of Hypocrates.

But would it not be a crime to depend solely on suggestion in treating an acute suppurating appendix, or a diphtheritic membrane in the larynx or any other pathologic condition running a rapidly fatal course unless combated by scientific methods?

Should so-called healers be permitted to "treat" all manner of diseases whose conception as to their causes is on a level with that of the Zulu witch-doctor?

During the childhood of the human race these methods of treating disease were well-nigh universal, but with the development of civilization men began to use common sense and these primitive beliefs no longer received credence among the more scientifically minded. Disease was too important to be left to the incantations of the witch-doctors. Gradually common sense took the higher form which we call science and medical men gradually succeeded the witch-doctors.

At last in this wonderful age in which we are living science entered upon its real development, and the art of curing disease made just as much progress as any other practical art of modern times. We do not oppose these unscientific and ineffectual methods of treating disease because we are selfish and intolerant but purely from the altruistic motive of protecting the public from the harm which may ensue therefrom.

We are tolerant enough to admit everyone who is sincerely desirous of practicing scientific medicine by equipping himself with the necessary knowledge and training. The medical profession is not bigoted and intolerant. We investigate and analyze all plausible statements regardless from what source they come.

Heterodox opinions are now given space in nearly all of our journals.

This attitude has been a potent factor in the rapid advance scientific medicine has made in modern times.

Let us remember that all the accessory aids which are required for the progress of medicine such as the chemical, physiological and bacteriological laboratories, x-ray, microscope, etc., and the physical instruments of precision are in the

hands of the regular medical profession and not in the hands of the quacks and cults.

Let us further remember that every discovery of any importance of the causes of disease, its diagnosis and treatment has come from the hands of the regular medical profession or those directly connected with it.

We may enumerate a few, such as asepsis, antisepsis, general and local anesthesia, x-ray, heliotherapy, hydrotherapy, the antitoxins of diphtheria and scarlet fever and the more recent erysipelas antitoxin, the discovery of the various bacilli and the role they play in the causation and transmission of diseases.

The discovery of the mode of transmission of yellow fever and malaria alone is worth billions of dollars to the human race.

The isolation of the hormones from the internal glands, the isolation of the vitamins and the discovery of their functions in the physical economy.

In short, every discovery of importance in the etiology, diagnosis and treatment of disease either medical or surgical has come from the hands of the regular medical profession or those closely associated with it.

It is, therefore, important in the interest of the public health that the practice of medicine shall be limited to those who have fitted themselves and are qualified to apply these discoveries in a scientific manner.

The faith healer, the absent treatment faker, or the spine puncher may believe he can cure you of acute appendicitis, gastric ulcer, renal and cystic calculi, or any other pathologic process, because of his lack of knowledge of anatomy, physiology and pathology. But the unfortunate patient suffering with an acute malady which may terminate fatally is not getting a square deal.

He trustingly places himself under the care of one of these pretenders, but the pathologic process with which he is afflicted goes on and on, possibly to a fatal end. Whereas, if he had come under the care of one who was versed in medical science the pathology might have been removed by surgical measures or corrected by scientific medical treatment.

From the foregoing it is obvious that laws regulating the practice of medicine are indispensable for the protection of the public health.



CHICAGO NOT A BREEDER OF CRIME\*  
CHICAGO'S CRIME PROBLEM IS LARGELY THE  
PROBLEM OF THE SURROUNDING COUNTRY  
A FEW KIND WORDS FOR CHICAGO

RICHARD J. FINNEGAN  
Co-Editor of the Chicago Daily Journal.

CHICAGO

There is no more important topic than that of Chicago to the editors of the states of Illinois, Wisconsin, Michigan, Ohio, Indiana, Minnesota, Iowa, Missouri and the Dakotas. Nature gave us the same home and is gradually making us into the same family.

It is an old story that Chicago is the geographic center of the great central lowland, the world's greatest combined agricultural and manufacturing basin, between the Rockies and the Appalachians, with the Mississippi drainage system to the west and the great lakes and St. Lawrence system to the east of the continental divide that passes through the western part of our city and its suburbs. Your states and ours are endowed by nature in a peculiarly munificent manner. Through trade routes of rail, water, highway and air, traffic east and west, north and south, in these states within 500 miles of Chicago a population of 50,000,000 centers here. Chicago just had to be. For as many centuries as the surface of the earth in the states from which you come remains as it is, you and Chicago will grow or wither together. We depend on you and you on us.

Now, although there is this natural affinity between Chicago and its surrounding states, it is not true that Chicago is thoroughly understood or the problems of its 3,000,000 people appreciated by its neighbors, such as you, except in isolated cases. I say thoroughly understood because even Chicagoans do not thoroughly understand their city. There are many things about Chicago to criticize and condemn as there are about the cities from which you come. You understand your city better than we do. We are trying to understand Chicago better than you do. Chicago receives perhaps more adverse publicity and editorial comment than any other city in America. One thing is true: Chicago newspapers do not sweep Chicago's municipal dirt under the bed or hide it under the living room carpet. Several years ago I happened to make

a trip to a certain section of Illinois and on my journey discovered that there was a large territory, including a city of considerable size, partly under water from flood. No news of this flood had been printed in Chicago. There was only one newspaper in the city to which I refer and when the editor of that paper was asked why he had not sent out a story of the high water, he said that he did not want to injure his city.

Chicago papers, of course, take no such view. If anything, they overstate the ravages of the elements and the misdeeds of man, and because we are on every trunk line of wire communication, with all the press associations represented in this city, a very fortunate location brings us much unfortunate publicity.

Are you prone to over-emphasis Chicago's murders and other crimes, its crooked politics and bad government, its selfishness, its vice and iniquities, its slums, its hoboland, its valley beer gangs, its Ciceronian neighbors? Do you, through editorials and headlines, give your readers the impression that Chicago is a Moloch among the cities in which human sacrifice is the first law, where gunmen lurk at the entrances to our railroad stations, where murder is a misdemeanor and not a capital crime; the juggernaut of all the communities of this land, crushing down the innocent and the helpless, a place where only those escape and prosper who make selfishness and graft their protecting gods?

Chicago is not self-satisfied and is contending against the agencies that bring her into disrepute. And while she is thus engaged, in all fairness, her critics should first understand Chicago, which none of them do. To give an understanding of Chicago is a larger task than I could accomplish. The short time will let us consider only briefly just two or three things that may help us to a better attitude toward Chicago's problems.

There is no more popular subject for editorial writers than Chicago's crime. They call the city a breeder of crime. You may have a more sympathetic tolerance of judgment when you learn that Chicago's crime problem is largely your own crime problem.

It has been the decree of nature that Chicago should have things—some good and bad—heaped upon her from all around. In a geologic sense, Chicago has been the battleground of the elements. First one and then another glacial, in-

\*An address delivered before the Inland Daily Press Association at its meeting in Chicago, May 24, 1927.

vader rolled this way, tearing up the landscape. Our last visitor of this sort, the Wisconsin field 25,000 years ago, brought down loads of foreign substance from Wisconsin, Canada and other points north, and as it retreated left a Lake Chicago, 60 feet higher than the present Lake Michigan, extending over the ground we are now occupying as far west as LaGrange and Riverside and emptying into the Desplaines, Illinois and Mississippi rivers. As the ice crept back north, Lake Chicago dumped into Lake Michigan and the water began to flow eastward to the St. Lawrence. And the world was ready for man to come and build Chicago.

Now the glaciation of sand and gravel and other moraine is finished, but the process of human invasion from all around has been going on a hundred years. The scientist can examine the nearby outcropping and underlying rocks and from their grooves and scratches tell us just what occurred in those far off times. Some time in the near future, scientists will examine the underlying rock of our human makeup in Chicago and by the grooves and scratches on our civilization, by the kind of sand that they find in our population, in our penitentiaries, our jails, our insane asylums, and our poor houses, they will give us helpful data on crime and other subjects that now concern us not as much as they should.

We can at least examine the surface, and what do we find? That the native Chicagoan is not the chief culprit at whom our editorial critics aim their shafts; nor is the most troublesome resident, as many suppose, our so-called alien born citizen.

Not at all. The person who causes most of our troubles and community heartaches, who goes more often than any other resident to our penitentiaries for murder and other major crimes, who becomes a charge as an insane person, as a hospital dependent or as an inmate in our poor house, comes to us, my brethren, from your home town. He is the native born American from the farm just outside your city, from the crossroads that you passed just after you took the train to come to this meeting. He is the boy who ran away before he went through your grade school, or perhaps he graduated from your high school and outgrew the old home town and came to the big city to make his mark.

Just as the glacial deposits from outside gave Chicago its physical makeup, the human deposits

brought here from round about by the impelling forces of adventure, unrest and nomadism help give Chicago its social aspect. Just as the retreating glacier turned the flow of Lake Chicago from the west to the east, making it necessary for us to dig our drainage canal to reverse nature's final verdict to protect our water supply, giving us physical problems for our skyscrapers, our coming subways and other great works, so the new and present population glacier has created tremendous problems for social engineering, which are not only ours but yours as well.

Let us examine Chicago's population. The census gives us roundly 3,000,000. There are 1,300,000 who were born here—native Chicagoans; 800,000 who were born in the United States outside of Chicago, and 900,000 who were born in foreign countries.

Psychiatrists tell us that their examination of the American soldiers in the world war indicated that more than 45 per cent of them had the average intelligence of 12-year-old children. Scientists maintain that this average runs through the general population.

If that is so, there are 1,350,000 persons of this group in Chicago. Those who were born here have the benefit and restraining influence of home ties and the associations of their childhood, which are very potent in keeping people out of trouble. When you consider, however, that from foreign countries there are in Chicago approximately 415,000 persons of this 12-year-old intelligence; and from the rest of Illinois and other American states approximately 360,000, making roundly three-quarters of a million who are largely without home influences, you will begin to appreciate why our prison records show that most of the crime is committed by outsiders, who generally come to the city in early life; and you will also readily understand why 75 per cent of the inmates of our penitentiaries are persons of 30 years of age or younger.

Just consider what would happen in your community or any other city if you were suddenly confronted with the problem of employing, directing, restraining, conserving the activities of three-quarters of a million persons of the average intelligence of 12, thrown upon their own resources.

Let's take the facts shown by the executions for murder in Cook county for ten years. Of 36



men who were hanged, 10 were born in Chicago, 10 in foreign countries—9 from Italy alone—and 16 in other states of the nation. Native born Chicagoans make up about 44 per cent of our population. Yet only 28 per cent of those hanged were born here. Foreign born residents make up about 29 per cent of the city's population. Their record is 28 per cent of those hanged. Americans born in other cities and states constitute about 26 per cent of our population. Yet they appear among the murderers hanged around 45 per cent.

You may say, perhaps, that if Chicago would show less partiality and hang enough of its own rascal native sons, murders would be fewer here, but there are other records to prove that this average percentage of delinquency runs pretty generally through the groups that make up our community. For instance, at Joliet (from records compiled for the purpose of this paper by Hinton G. Clabaugh) of 61 murderers in prison from Chicago only 5 were born in Chicago, 2 in Russia and one in Mexico, 2 in Italy and the remainder in states outside of Illinois. Twenty lived a greater portion of their lives in Chicago. Only 4 had previous criminal records and 57 were first offenders. Of 30 men serving terms in Joliet for manslaughter, only 4 were born in Chicago, 6 in foreign countries and 20, or two-thirds of the total, in outside states.

We all print a lot about Chicago bandits in our papers. Of 20 bandits guilty of robberies with guns, picked at random in the state penitentiary, only 5 were born in Chicago, one in a foreign country and 14 in states like yours. An analysis of the origin of 404 prisoners sent to Joliet and Pontiac from this city shows that 100 were born here, or a little more than 27 per cent of the total; 213, or 53 per cent, came from other states of the Union, and 81, or about 20 per cent, from abroad.

Carrying it out on a percentage basis of population of the different groups, three murders or other major crimes are committed by non-Chicago born American citizens to one committed by a native born Chicagoan. The non-Chicago born American commits nearly two murders or other major crimes for one committed by a Chicagoan of foreign birth. The records I have just quoted are gathered among persons actually convicted of crime.

In our county jail, where prisoners are kept before they are tried, the records show that 70 per cent of the alleged law violations here are committed by persons born outside of the city; 46 per cent by American born and 24 per cent by foreign born, leaving 30 per cent committed by native Chicagoans. Of the states represented in the Inland Press association, the two that show the highest percentage of crime to their relative population in this city, are Minnesota, first, and Michigan, second.

Nor is the record on crime all that will interest you. Sickness, insanity and pauperism as public charges afflict those who came to Chicago from outside in greater proportion than native born Chicagoans. In 1925 there were 2,489 deaths from tuberculosis in the city. Of this 891 were born in Chicago; 901 in the United States outside of Chicago, and 859 in foreign countries, both the latter showing percentages far too high. The county hospital, maintained at public expense, is the largest hospital in the world. Last year 40,592 patients were treated there. Thirteen per cent of these were of foreign birth and 87 per cent were native Americans. Of the native Americans there was only one Chicago born to every five born outside the city. At the Cook county poor house there are 3,682 paupers supported by tax payers. Only 250 of these are native Chicagoans, or about 7 percent. The non-Chicago native American homeless number 1737, or about 46 per cent, the alien born, 1720, or 46 percent. The states represented by the membership of the Inland Press association have 579 paupers there, more than twice the number of native Chicagoans. New York has 195. It might interest some of our New York critics to know that, considered on a basis of population per capita, a New Yorker in this city runs 20 chances of being a public charge in our poor house to one of a native Chicagoan.

Considered on the percentage basis of population, the boys and girls who come to this city from your home towns are growing insane more than twice as fast as those who are born in Chicago. Figures prepared at the state department of public welfare show that 39 out of every 100,000 native born Chicagoans are sent to our state insane asylums. The rate among those born in other states who come to this city is 97 per 100,000. The rate among foreign born is 115 per

100,000. Out of 2,193 insane persons from this county in our state institutions, only 526 were born here.

At the University of Illinois a few weeks ago—on “Mothers’ Day”—President Kinley reminded mothers and fathers that they should not look to the university to make the characters of their sons and daughters, but that character forming was a function of the home. Many parents expect the university to change their children and reshape the fundamental structure that is set before the university age. We may say the same of the city. It can’t take the youth or the man from your town or city and make a new person of him. In most instances you have made the matrix and cast the plate of his character before he gets to Chicago. If he is not set in the right type at home, while still in your charge, in ideals of respect for moral or statutory law, in ambition to work and become a citizen worthy of his American inheritance, in a desire to conserve his health and his mind by right living and right thinking, and in habits of thrift, so that he may not die in the poor house, you can understand, with us, how he may drift into misfortune and crime and make his adopted city the object of editorial brick bats.

He is Chicago’s greatest crime problem—the youth who comes to the city all alone with no restraints, without or within himself, to check his desire to “step on the gas” when he lets loose on the highway of life.

But there is a brighter side to the picture. If your contribution to Chicago’s criminal element comes from homes and communities where early training has been neglected, there are other efficient and successful American homes in your states and other states which send to Chicago its most illustrious citizens. Thus we are able to prove that it is not the city that ruins those who go wrong any more than it is the city that raises up those whose names make Chicago known around the world in art, science, literature, the professions and in business. The opportunities for evil or good, for degradation or fame, are here in equal measure, but the choice is up to the manhood of the chooser, not up to the city.

A study of the names of 1,544 men and women who live in Chicago and nearby suburbs, which are printed in *Who’s Who in America*, shows that only 173 were native born Chicagoans, 210 were foreign born and 1,151 were American born out-

side the city. On the basis of relative population, youths who come to Chicago from other states have eleven times as many chances of being so successful as to get into *Who’s Who* as boys born in the city itself, and even those born abroad lead our own native born. Of course, the *Who’s Who*ers have advanced more in age and life’s experiences than those who have broken into prison, and there is a chance that some of the youngsters who are now in the penitentiary may break into *Who’s Who* when they get out and start upon their careers of reformation, but it would be interesting to take a group of the *Who’s Who*ers and compare their original home surroundings with the same number of jail birds.

Now on the record of crime in this city, native born Chicagoans seem to stand fairly well, although in our *Who’s Who* test they are not so good. But we can console ourselves with the knowledge that boys and girls born in Chicago go to other cities and achieve fame worth a few lines in *Who’s Who*, and as for our native born criminals, we know they abound in other cities, too. In this connection, an Indiana man in one of our murder cases hit the point. With two women, also from Indiana, he conspired in the murder of another man in this city. After the killing, one of the women suggested that this Hoosier accomplice kidnap a Chicago taxi driver and kill him, putting both victims in the cab under circumstances that would indicate that the deaths were due to an accident. But the wise Hoosier refused. “Why?” asked the woman. “Because,” answered the Hoosier, “the taxi driver might be a man from my own home town.” That expresses Chicago’s attitude pretty well.

While New York and other cities send us news of banditry and murder, our newspapers do not unloose a flood of abuse of the city involved. Perhaps we appreciate that the gunmen might be from our own home town. It might not be a bad idea when newspapers print stories of crime to determine the origin of the criminal, and if he is from Philadelphia or Chicago or South Bend or Danville, put at the end of the story “Philadelphia papers please copy,” or “Danville papers please copy.”

Chicago’s problems of sickness, insanity, delinquency and crime have put Chicago on its mettle. Why, we have even gone so far as to elect most of our judges in our criminal and other courts from among men who were born in



your home towns! That's a pretty good start in enlisting your aid in helping Chicago solve its crime problem. If you have any objection to the way our municipal politics is run, just remember, please, that nearly half the city council of our city was born outside its boundaries.

Hereafter when Chicago appears to you as a wanton of crime, try to believe she also has a soul and that soul is always striving for the betterment not only of Chicago but of mankind the world over. To tell about the soul of Chicago would require time and ability not at my command, but remember just this one item: In a single year Chicago, by taxation and gifts, contributes nearly \$53,000,000 to charity, or more than \$17 per capita. For charity alone we tax ourselves \$5 per capita more than the state of New York receives from its citizens to run their state government..

There is a tendency in the outside press to criticize the foreign born elements in the large cities, particularly as to their supposed criminal tendencies, which are represented as a bar to their thorough Americanization. I have shown you that there is not so much crime proportionately among the foreign born as there is among native born. If you could study the Americanization work being done in Chicago among the foreign born by leaders of the national groups themselves, you would be amazed. When you write on that question again, please remember that not only in Chicago but in Gary, Ind., and other centers of foreign born population, during the world war, in the liberty loan and other war drives, their quotas were generally oversubscribed before some communities with 100 per cent American born populations were fairly starting.

Not only at home did this group show their patriotism, but by the honors which they won on the field of battle, representatives of our foreign born groups were among the outstanding heroes of the war. Among these was Sgt. Jake Alex, who ranks not far from Alvin York in the list of Americans cited for bravery. He was a volunteer. After he returned from France he was called upon to speak at a dinner at which there were many notables, including two major generals. He said: "I left Serbia as a boy to be free in America. I came to Chicago. I went to school and worked at the stock yards. When America needed me, I joined the army. I fought the best I could. I came back and went to work.

If America needs me again, I am ready. I only wish my mother in Serbia could be here, the only land in the world where a sergeant can sit down at the same table with two major generals."

Jake Alex is an example of what Chicago is trying to make of all her citizens.

There are other important matters affecting the outside press and Chicago which could be extensively discussed—for one, our use of Lake Michigan water, which some of your states are trying to restrict; for another, Chicago's already unconstitutionally restricted representation in our state legislature, which you from downstate are trying to make permanent. As with crime, there are two sides to each of these questions also and Chicago ought to receive your fair consideration of her position.

Here is a city growing at the rate of 70,000 a year—an increase equal to the population of Racine; not ideal, not boastful, welcoming just criticism, not resentful of calumny; tremendously busy with the greatest problems of American life; safeguarding the health of her citizens as no other American city is doing; with schools that make it the greatest center of learning on this continent; with a per capita church-going population as large as any city; with quiet, self-sacrificing men and women in laboratories doing more to safeguard the human race from disease now regarded as incurable than any other group in the world; a city whose distinguished citizens—your donation to us—give Europe economic equilibrium after the world's greatest war, build a capital for Australia, construct for Tokio the only buildings to withstand the ravages of the earthquake, or tackle and accomplish any other big job the world may offer; a city risen out of the marsh, which is reconstructing itself according to the spirit and vision of the World's Fair period, with unmatched boulevards, parks, playgrounds and forest preserves, art and scientific museums, libraries, hospitals and other institutions that bespeak the noblest aspirations; a city whose purse is sending a million dollars to flood sufferers—about 10 per cent of the national quota; a city with weaknesses but with a conscience that is alive to its shortcomings and with a will to meet the problems of today and tomorrow with renewed resolve that in the end the best shall come to the top in our great melting pot.

A city of many Main streets; a city of your

own flesh and blood, which your very best united with our very best will some day make into the world's greatest city; which your very worst united with our very worst sometimes injures but cannot destroy.

We implore you to consider and understand Chicago as she is and hopes to be—a city of noblest opportunity—your city as well as ours.

### TIME

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There are a few still alive—though their silence would seem to indicate that their number is no longer large—who must be able to recall those happy moments of a younger existence when the only train which passed through Wauseon Centre left on one time, if it rolled East, and on a different one, if it rolled West, while the onlooker if he got self-conscious at all lived by City time, also known as Sun time or God's time. 1870 or thereabouts marks a point in the history of our so-called civilization where the concepts time and distance began to mean something even to the peasantry and traveling salesmen to say nothing of trainmen, telegraphers and individuals using the mails. The cowboy who used to drive his cattle from Keith County to Omaha needed to adjust his timepiece but very few minutes as he made his daily stations. But when the railroad came and he rode a caboose instead of a horse, these fractions grew. If he rode a passenger train, he might miss a connection by an hour or two, and when he telegraphed it became necessary for him to visualize the receipt of his message by a man clad either in a night shirt or a clawhammer coat.

The obvious disadvantages to a world in movement of a time system which varied with the religious tastes of every community were met by the adoption, the world over, of Standard time. While originally proposed in the late 'seventies and formally accepted by the Washington Meridian Conference in 1884, its advantages were so many that the railroads adopted the International Standard Time even before this date. Since the acceptance of Standard time the hard driven human race has felt itself free of at least one type of body louse. Until lately

the New Yorker knew pretty well what his San Francisco friend was doing at any given moment and vice versa. If he telegraphed or, later, telephoned at noon he could count on the probability that the San Franciscan was in his office, or turned about, the San Franciscan knew that his three o'clock quotation on the new Burbank cross between spinach and poison ivy would hardly prove interesting to the New Yorker at dinner.

Such ease of living became abhorrent, it would seem, to those to whom the darker half of every day is synonymous with sin and to whom virtue seems existent only in preternaturally early mornings with their headaches, and the refreshing spectacle of men at work early, especially other men. I can find no other justification for the euphoric thought of Daylight Saving and its consequence, that once again every man makes his own time.

The honor of having invented the new insanity is today being contested for by various nations, various peoples and various lodges. The wrangle comes a bit late for any fundamentalist may quote the following from Isaiah 38, 8:

"Behold, I will bring again the shadow of the degrees which is gone down in the sundial of Ahaz, ten degrees backward."

The modern period of self-hypnosis undoubtedly began in the United States and must be credited to B. Franklin of Philadelphia. The fact must be charged to the debit side of his career and comes, presumably, out of those years when, if the War Savings Stamps department of the United States Post Office may be trusted for its knowledge of history, the honorable Benjamin invented "Thrifty." His argument was simple—saving daylight saved candles. Without insisting upon the rights of the candle maker in the matter, Franklin's early Rotarian disputation may be best disposed of by citing what Wu Ting Fang once gave as the Chinese equivalent of "Penny-wise, pound-foolish." "The frugal man retires early to save candles—and begets twins."

It would seem an obviously simple matter for those preferring sunrises to firelight readings from our best authors—say The Saturday Evening Post, The Ladies' Home Journal, The Literary Digest, The Poultryman's Review and The Machine Tool Analyst—to get up an hour earlier: but no such common sense seems ever to be in fifty-one per cent. of the population.



If breakfast formerly was at six and the mid-day meal at twelve, the animal's habit is not changed by choosing to eat, respectively, at five and eleven. But our country cousins, no doubt because ashamed of their early lust for food, prefer to change this difficult element resident in their physiological mechanisms by going on Daylight Saving time. When this is not sufficient, they give further aid to the situation by declaring, through gerrymander, that their pigsties and mortician equipment factories are situated in the time belt of a more eastern sector. Thus they are enabled to sugar their evening salads as early as three in the afternoon, International Standard time. Our city giants, keen to unload more horse shoe nails and tin cans upon an already overstocked market, preach the gospel of daylight and efficiency to their millhands forgetting that the free hours guaranteed their subjects for gardening are chiefly consumed in the stale air of a movie house where Gloria Swanson makes every man a Bolshevik.

The sense and common sense of Standard time requires no defense so far as I know in any circle which embraces any of the following: railroad men, tramps, bank presidents, burglars, traffic cops, shipping clerks, itinerant gospel preachers, bootleggers and sheriffs, automobilists, mail men, brokers, newspaper men, telephone and telegraph operators, radio fans, nearly anybody who can either read or write, nearly everybody who has to be anywhere on time, dairy cattle and all jack rabbits during the open season. Why these forces have not long ago done away with the nonsense that monkeys with Standard time mystifies me, but, in the absence of any protesting voice from them, I wish to justify the murder of any sunbeamer by emphasizing what his worship of the golden orb means to the one-night actors who, like myself, play the lesser American provinces.

Suppose a spring assignment takes us into central New York. We know from the folder when the Limited will land us at Prospect Junction to spread our great white light before the afternoon meeting of the Business Women's Dramatic Association. Somewhat triumphantly our train arrives on time and an hour before the meeting opens. We rest quietly while a couple of lesser stars perform and at four go into action ourselves. An hour goes that way, another half

into discussion, there are adieus and we are hurried to the six o'clock train for a seven o'clock banquet at Hinckley. The train trip takes half an hour, the taxi ten minutes, a hurried wash five, and you walk proudly into the banquet hall. Instead of applause, frigidity greets you. You are an hour late! For this is Hinckley, June first, and Hinckley today went on Daylight Saving time.

One lesson is enough. You speak to the students at Syracuse at nine tomorrow, and this time you will not be late. The night train rolls in at five, you wash until six, and enjoy a leisurely breakfast until seven and saunter to the University. Eight by your watch, you learned last night, is nine in these regions. Forehanded, you arrive at 7:30 Standard time to find the University halls not even open. A janitor lets you into a lecture room full of dust and you wait a half hour. And then you wait another whole one, for this is June second and Syracuse does not go on Daylight Saving until June fifteenth. You can, in this way, have the gods alternately laugh at you and cry for you as you play Utica, Herkimer, Little Falls, Schenectady, Troy and Albany. The whole distance is not three hours by railroad or autobus or automobile, yet, in that happy realm, you will work on schedules which are Standard time or Daylight Saving time or either or both, variously going into action each for itself and none for anybody else, on April twenty-fifth, May sixteenth, May thirtieth, June first or June fifteenth. Can one predict the future from the past? Certainly! It is only necessary to remember that when you play these empire cities in the autumn they return to normalcy on September twenty-fifth, September eleventh, September sixth, August thirty-first and September twelfth.

Instead of moving over the hours for meals, the go-getters of our larger industrial mudholes do not hesitate to move over a whole time meridian. Cleveland moved its to where it thought God ought to have placed it several years ago. Normally on Central time but weary apparently of what she felt an insult to the "sixth City," she fed herself the poppy of Eastern time. In the old days one could leave Erie or Pittsburgh, set his watch back an hour and feel himself quiet for whatever time he spent in the Western Reserve. For two years after Cleveland got these

measles, this quiet had to give place to a brisk awakening as one rolled into the eastern stretches of that city, or to an effort at quieting one's nerves as one left it. Now Cleveland's disease has spread, and like it or not, all the Londons, Ravennas, Gileads and Genevas of the classically-minded northeastern Ohio now lie sick with the big fellow.

In the northern boroughs of Ohio, Eastern time now reaches to Toledo. With this fact in mind, with some knowledge of geography and with a handy use of interpolation one might think that peaceful travel there was once more possible. But this Eastern time follows only certain rail lines. Meet your Toledo engagement over one railroad and you will be on time; meet it over another and you will have an hour before you in which to see the sights.

Between Cincinnati and Columbus the varieties of time are as infinite as the brands of bootleg liquor. The towns alternate in offering one Eastern or Western time as suits the Honorable, the Council of Bush County. In summer, Daylight Saving is added, the beginning and end of summer being determined by astrology, thus yielding a twilight zone which varies from one to six weeks.

On a day when you spend a week, say in Chipmunk Centre, you buy yourself a ticket for the evening show. You are south of Toledo, west of Columbus and north of Cincinnati. By trigonometry, the law of chance, faith in your watch, a furtive look at the charm you carry in your right waistcoat pocket and with a ten per cent. allowance for error in all human calculations, you figure out that the show begins at 8:15 your way of thinking. To make sure, you ask the girl.

"8:15" is the relieving answer.

"8:15, Cincinnati time?" you inquire.

"No, I said 8:15 this time."

"Do you run on Eastern Standard time?"

"No, we run on Daylight Saving time."

"Then 8:15 your time is 7:15 Cincinnati time?"

"I don't know anything about your time."

"Well, Cincinnati is on Eastern time and your town is east of Toledo and you said that you were on Daylight Saving time."

"I told you that we went on fast time."

"By fast time do you mean Daylight Saving time?"

"I don't know Mister, I just know that we are on fast time."

"Does that mean that you are one hour ahead of Eastern time?"

"No, Mister, we are on Standard time."

"What kind of Standard time?" you ask.

"Standard Western time."

"Oh!" and you start again. "Normally you are on Western Standard time, that's one hour slower than Cincinnati time. Now you are operating on Daylight Saving time, so your time is the same as mine because we have not yet started Summer time. Is that right?"

"Say, Mister, there's people waiting for tickets, would you mind stepping out of the line?"

Within the last few weeks some one has started the subscription list which is to build a lasting monument to the Englishman who invented Daylight Saving time. I am not able to recall his name but the monument ought to be built, and I enter my subscription herewith—one brick.

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## SYPHILIS AND CHRONIC AILMENTS, WITH A NEW TEST FOR THE DIAG- NOSIS OF SYPHILIS

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There is no disease in the whole realm of medicine that is so fascinating in its study as is syphilis; there is none that is so protean in its clinical manifestations; and there is none that requires for its adequate treatment an equally broad and extensive knowledge of the vast domain of morbid changes to which human flesh is heir. The time-honored correlation of syphilology as a branch of dermatology has grown entirely out of date. It is a relic of those still recent days when syphilis posed as a skin disease and little was known of its fatal onslaught upon every organ of the body. Even today, but a small fraction of all the misery, the suffering and despondency that is caused by syphilis is placed at the door where it belongs. Multitudes of chronically ailing patients go on through life as hopeless cripples, eking out a miserable existence, unable to compete with their fellow citizens for want of physical fitness and deprived of their heritage of happiness and enjoyment of life for



the only reason that physicians have not, as yet, learned to see the hidden syphilis that underlies their chronic ailments. Nevertheless, sufficient data have been brought to light to enable us to make a more efficient diagnosis and to relieve, or cure, a large percentage of these chronic sufferers if we would but use the knowledge we possess intelligently and employ it without undue bias or harmful prejudice.

*Incidence of Syphilis.* A solid and broad foundation for the recognition of syphilis disguised in the form of chronic ailments has been laid down by A. S. Warthin,<sup>1</sup> of Ann Arbor, Mich., in his noticeable article: *The New Pathology of Syphilis*. Though published as early as 1918, the perusal of medical literature shows the deplorable fact that but few, apparently, have read it and still fewer have profited by it. The most startling finding, revealed in this article, is the incidence of syphilis as prevalent in the Northern regions of our country. Three hundred out of the seven hundred and fifty cases coming to autopsy at the university hospital of Ann Arbor during a period of ten years, from 1908 to 1918, revealed the presence of this disease, that is, 40% of the total number. These figures are the more astounding as "the clinical material of this hospital is drawn chiefly from the rural population of the state, representing the better elements of the middle class farmers, village store keepers, mechanics and laborers." In the years from 1914 to 1918 the percentage of syphilitics was even higher, due probably to more experienced work, and averaged year after year from 40 to 50%. Surprising as these figures may be, let us remember that they represent not someone's personal opinion or guess but concrete data gleaned from Nature's own irrefutable and indisputable records, as revealed at the autopsy table. They must, therefore, be accepted at their face value without deduction and without mutilation of any kind.

As to the reliability of the reading of these records of Nature there can be no question. Not only are the lesions of syphilis, as shown later, specific and so characteristic that a well informed and experienced pathologist can hardly be mistaken, but Warthin searched for, and found, the specific syphilitic organisms, the *treponemata*, in a sufficient number and variety of instances to satisfy himself and, I think, any

reasonable critic as to the correctness of his interpretations.

As the average percentage of syphilitics among the rural population is usually estimated at from 2 to 4 per cent., the facts revealed by Warthin show the incidence of syphilis in these country districts to be ten to twenty times as high as it is generally understood. In large cities, the percentage of syphilitics is, of course, higher. If we take for them, as, for instance, for Chicago, the upper values found in the country, namely, 50% of the total population, as the average, it should be a conservative and constructive estimate. It is conservative because the percentage is probably higher. It is constructive because real benefit can be obtained from such valuable work as Warthin's only if we try in our diagnosis at the office and the sick bed to come up to the findings of the pathologist. Ultra-conservatism and cynicism are not wanted. They are destructive. The wide gap between the supposed 10 to 15% and the existing 40 to 50% of syphilitics must be bridged in our clinical work if we would but do our duty to our patients and give them the help they demand and which we are able to furnish if we utilize to the full the knowledge at our disposal at the present time.

*Diagnostic Difficulties.* How woefully we have failed so far in recognizing syphilis in its aberrant forms may be taken from Warthin's statement that syphilitic lesions were found "in the great majority of autopsies in the bodies of those who gave no history of syphilis and no clinical signs or symptoms interpreted by clinicians as indicating syphilis." In other words, syphilis was not even suspected in the great majority of syphilitics who came to autopsy. It was only after death that the true character of their ailments was recognized.

This shocking truth shows clearly how inadequately our present conception of syphilis fits the existing facts. By looking for specific symptoms we totally ignore those disguised manifestations of syphilis which range through the long line of chronic ailments all the way from simple chronic catarrhal conditions of the nose and throat to the gravest afflictions of the inner organs. It is only in a few instances, for instance, in diseases of the aortic arch, that the specific nature of chronic ailments is recognized today, and this only very recently.

The fact that an existing syphilis is so readily

disguised and overlooked as to be unsuspected in a great majority of those infected and dying apparently from other ailments is most significant. Though it may be true that the beginning of syphilis in adults, and especially in women, not infrequently passes unnoticed—the social life in country districts absolutely precludes the assumption that in Warthin's cases syphilis, except in a small percentage, was acquired during the conscious life of these individuals. We are, therefore, forced to the inevitable conclusion that the bulk of our syphilitics is "innocent of guilt" and acquired their infection as a sinister gift from their fathers and mothers before entering upon their tainted worldly existence. They are, so to speak, "damaged goods," smitten harshly by a cruel fate and marked for life; unfortunates, predestined to suffer because, as the Bible says, "the sins of the fathers shall be visited upon their children."

With the acceptance of the conclusion that most cases of syphilis are congenital a great many difficulties in the diagnosis of hidden syphilis vanish. It explains, first of all, the absence of a history of infection. We must admit, however, that congenital syphilis becomes occasionally conspicuous at an early age by exhibiting symptoms known to be specific, such as snuffles or skin eruptions. The diagnosis is then, of course, readily made. This, however, is not the case if the symptoms are non-specific. It is surprising when taking the early history how many chronic sufferers know of difficulties in their first years of life. They were weak as babies, took nourishment badly, cried much and did not seem to do well. Such "*Lebensschwaesche*," as the Germans aptly call it, is always due to syphilis. In many instances chronic digestive troubles prevail and persist in spite of skillful treatment. Their syphilitic nature is rarely recognized. French authors, principally, have called attention to these facts and advised to search for syphilis if babies, for any cause, do not thrive. Their advice is here repeated, and with emphasis. No one should mind a negative Wassermann reaction. It is usually negative in these cases though syphilis exists. Nor should anyone mind the social standing of the parents. Syphilis shows no respect for pedigrees nor for church affiliations. The diagnostic test will clear the diagnosis and the proper antisyphilitic

treatment frequently scores successes in these cases that surpass all expectations.

Our difficulties increase if morbid symptoms, specific or nonspecific, are entirely absent and no signs of any kind indicate the existence of the infection. In such instances the baby may, and frequently does, look strong and healthy and may go on through childhood and adolescence, or even further, without much serious consequences. Chronic ailments developing under such circumstances upon a syphilitic basis are hard to diagnose and, if diagnosed perchance, are most always blamed to an infection contracted by the patient. There is, however, no need for such an assumption. It is but a few years ago that the opinion still prevailed that congenitally infected syphilitics could not pass the age of thirty. But this opinion is rapidly waning. We know today that the congenitally syphilitic may not only pass the age of thirty and enjoy a reasonable health, but that he may live even to a ripe old age without ever being suspected of his congenital disease. I know a family of five children, all alive and all over 60 years of age. Of the three I have examined all present unmistakable stigmata of congenital syphilis and all react promptly upon specific remedies when given for their seemingly non-specific ailments. Similar instances have been reported in literature.

Nor need a woman suffering from syphilis be devoid of fruitfulness. Though frequent abortions may, and do, point to syphilis, large families of apparently healthy children do not prove its absence. It is a great, and frequently disastrous, mistake to exclude syphilis offhand under such conditions.

Above all, however, outward appearances should never influence the decision of the examining physician. Though syphilitics frequently show the severity of their ailment, there are innumerable cases in which a robust physique, a rosy complexion and a seemingly splendid health effectively hide the underlying syphilis. No observing physician of experience has failed to meet examples of this kind. Warthin mentions one which tragically demonstrates the serious consequences of medical mistakes made in this direction. To a young couple, apparently in the pink of health, was born a dead child whose tissues swarmed with *treponemata*. Warthin adds that the diagnosis of syphilis was not accepted



clinically and the mother permitted to become pregnant again with the same result.

In confirmation of the above given new views on chronic syphilis the following histories taken from a family of syphilitics that is at present under my observation will be of interest. Mrs. M. B., 26 years old, was first seen when suffering from a severe attack of acute rheumatism involving nearly every joint of her body. On account of her utter helplessness the complete examination was deferred several weeks, when a total absence of patellar reflexes, Argyll-Robertson pupils and a slight Romberg were disclosed. The patient is 5 feet 7 inches tall, weighs 211 pounds and is the oldest of a family of nine children. She had a miscarriage one year after the birth of her 5 years old boy. There are no subjective symptoms and the patient enjoys now a seemingly perfect health. Later on a younger sister, 19 years old, the fifth of the children, sought advice on account of a slight enlargement of the thyroid, existing since her tenth year. The routine examination revealed here, besides some minor symptoms, the patellar reflex much diminished on the left side and almost absent on the right side, Argyll-Robertson pupils and a strongly positive Romberg. She swayed so much that she almost fell. Her height is 5 feet 8 inches, her weight 160 pounds and her physical development excellent. She is unmarried and arrived in Chicago only a short while ago from the farm where she spent her whole life. Questioned if there were any aches or pains, she replied: No, I am feeling fine. Upon further inquiry as to the condition of health of the other members of the family, it was learned that father and mother are living on the farm, which they cleared themselves, and are feeling well. The mother is 48 years old and has black hair without a streak of gray. She had one miscarriage between the eighth and ninth child, which she blames to the hard lifting while clearing land. All the children are of large, bulky physique. I saw a visiting brother who is 6 feet and 2 inches tall, a truly hereculean figure.

This syphilitic family, thus, explodes all that is being taught, and is generally accepted, as to the influence of syphilis upon the progeny. It shows how grave a mistake it is to be influenced in one's diagnosis by a large number of children or by their favorable outward appearance, as the

largest and healthiest looking families are not necessarily free from a syphilitic taint.

#### REASONS FOR THESE DIAGNOSTIC DIFFICULTIES

A flood of light is thrown upon the hidden connection between syphilis and seemingly non-specific chronic ailments by a casual observation of Warthin's, who noticed treponemata embedded, for instance, in the muscles of the heart, without the slightest reaction on the part of the surrounding tissues. This observation may, perhaps, at first glance seem of slight significance. Upon due consideration, however, a vast amount of information in regard to our subject may be deducted from it. Above all, it furnishes the explanation for the existence of those numberless cases of asymptomatic syphilis that have always puzzled clinicians by demonstrating to our eyes that specific toxins are not produced by living, growing microbes, as it is generally taught. If they were, tissue reaction would never be absent in the presence of treponemata and such microscopic findings, as referred to above, would be impossible. Symptoms of more or less severity would be present in all instances. Clinically we know that this is not the case. The truth is that specific toxins represent poisonous split products which originate during the disintegration of killed organisms. Abundant proof has been furnished in one of my former papers<sup>2</sup> to substantiate this statement and no opposition has been voiced by anyone since that time. Syphilitic symptoms, therefore, do not appear until treponemata die and specific toxins develop from their disintegrating bodies in sufficient quantities.

Herein lies the secret of asymptomatic syphilis. If the rate at which the specific organisms die, or are killed by the host, is slow, comparatively few specific toxins are produced, though large numbers of treponemata may be present. Irritation and destruction of the tissues of the host are insignificant, so that symptoms are slight or practically absent. This is the case in countless instances of congenital syphilis<sup>1</sup> and in those numerous instances of the acquired form that have reached the late, asymptomatic stages. In these cases, the virulence of the parasite has been reduced to such a low level that a complete equilibrium has been reached between the aggressiveness of the invaders and the defensive forces of the host. As long as this equilibrium is maintained, the progress of syphilis is slow

and is usually unnoticed by the patient. Years, or decades, may thus roll by. The syphilitic infant may grow up to adolescence, and even far beyond, without ever knowing of his condition.

If, however, the equilibrium is destroyed, the progress of syphilis becomes more rapid. Should, for instance, for any reason the resisting power of the host be lowered, as it may happen during physical or mental stress or on account of unfavorable conditions of environment or nutrition—the specific organisms become aggressive. They grow in numbers and disseminate more freely, especially at places favorable to their existence. With increased numbers of microbes there is increased dying, particularly if the tissues of the host answer with a general or localized reaction. Increased quantities of specific toxins are now produced. Irritation and tissue destruction follow in proportion. Chronic ailments of all descriptions are the consequence. They are more conspicuous or dangerous the greater the extent of the destruction or the more vital the organ is that is damaged. Physicians may, and frequently do, think of syphilis when diagnosing these chronic cases. If the patient admits infection and his Wassermann is positive, the chances for adequate treatment are good. But if his case is of the congenital form and he knows nothing of a previous infection, or if his Wassermann is negative, as, unfortunately, is the case in the vast majority of chronic ailments—all considerations of syphilis are usually dismissed with the inevitable consequence that the correct diagnosis is missed and the patient is doomed to needless ailing.

The mystery as to the syphilitic character of chronic ailments is increased if the onset of the trouble is initiated by one of the many febrile diseases. In this instance, it is the host who disturbs the equilibrium and becomes aggressive. It is a well known fact that during fever the defensive forces of the body increase their activity. As the battle that ensues to subdue the new infection waxes fiercer under the stimulus of the higher temperature, the previously settled treponemata are attacked with equal force. The efficacy of a number of successful therapeutic measures is based upon this biological phenomenon. The effect is the same as in all other instances where massive destruction of treponemata occurs: increased production of specific toxins and its consequence, as described above. The diag-

nostic difficulties, however, are here multiplied for the simple reason that the previous febrile disease naturally suggests itself as the cause of the ensuing chronic ailment. Assuming, thus, that symptoms of heart disease arise after an attack of influenza in consequence of the increased destruction of treponemata, that are always present in the muscles of this organ in every older case of syphilis—the assumption may be natural that they are due to the organisms of influenza, but in reality syphilis should be blamed.

A similar difficulty as to diagnosis exists in those numerous instances in which specific chronic ailments follow trauma. Though the *modus operandi* in bringing about these lesions is entirely different in these cases, as shown elsewhere,<sup>3</sup> trauma, too, offers such a plausible reason for the existing ailment that a possible syphilitic etiology is mostly ignored. And yet, many of these lesions are distinctly syphilitic and could readily be cured by a properly instituted antisiphilitic treatment. Only those comparatively few cases are diagnosed correctly in which the development of gummata leaves but little room for doubt as to the syphilitic nature of the lesion.

The chronic syphilitic lesions produced under such circumstances are not confined to any one organ of the body. We are wont to point a warning finger to the afflictions of the central nervous system as the awful consequences of insufficient or maldirected treatment. It is certainly not my intention to underestimate these most unfortunate complications, but they are far less important when contrasted with the many distressing and even fatal syphilitic involvements of the inner organs. The overwhelming evidence furnished by his autopsies convinced Warthin that "the majority of cases of syphilis die from the results of these slow mild, inflammatory processes in the viscera and blood vessels rather than from paresis or tabes" and further that "I am convinced that the majority of all cases infected with syphilis die of chronic myocarditis." These are impressive facts that should be noted by physicians and should carefully be considered when planning the treatment of their chronically ailing patients. From a business standpoint it is of highest interest to all life and accident insurance companies to take cognizance of these same facts. Syphilitics are "damaged goods." They are "increased risks," whose



chances for health or life vary according to the syphilitic involvement of their inner organs.

#### A NEW TEST FOR THE DIAGNOSIS OF CHRONIC SYPHILIS

Progress in the diagnosis of syphilis, if disguised as chronic ailments, would, of necessity, be slow and tedious were it not for the fact that there exists a simple diagnostic test which gives us the means to prove the presence of syphilis wherever it exists in these chronic cases. This test is microscopic. Its scientific basis has been given in two previous papers.<sup>4, 5</sup> It rests upon the well known fact that the body substance of the treponema, the specific organism of syphilis, is of fatlike, or lipoidal, nature. Fat or fatlike substances, however, can be digested parenterally only by those cells of the host that are able to elaborate fat splitting, or lipolytic, ferments. To these cells belong preeminently the lymphocytes and their derivatives, the plasma cells<sup>4</sup>. These two kinds of cells are, therefore, called into action by Nature in her battle against micro-organisms containing fat or fatlike substances, for instance, in her battle against the treponema and the tubercle bacillus. It is for this reason that the cellular infiltration at the site of syphilitic or tubercular lesions consists of lymphocytes and plasma cells. It is true that these specific cells may also be found at the lesions of a few other infections, for instance, in leprosis and anthrax, as their specific organisms also contain lipoids, but these diseases are so infrequent that under ordinary circumstances their consideration can safely be dismissed. We are, therefore, fully justified to consider a lesion with a cellular infiltration composed of lymphocytes and plasma cells as either tubercular or syphilitic. But in cases where also tuberculosis can be excluded, be it clinically or microscopically, as it is possible in almost every instance, a cellular infiltration composed of lymphocytes and plasma cells denotes syphilis and is of the very same diagnostic value as is a four plus Wassermann reaction.

In old and chronic syphilitic lesions the cellular infiltration is composed almost entirely of lymphocytes and plasma cells, mostly with an addition of fibroblasts. The meaning of these latter cells has been given elsewhere<sup>4</sup>. They are of no moment from a diagnostic standpoint and deserve, therefore, no further mention. In

the case of subacute lesions, however, during exacerbations or before the chronic stage has been reached, there will be found a more or less conspicuous sprinkling of polymorphonuclear leucocytes among the lymphocytes and plasma cells. The polymorphonuclears possess no lipolytic, but only proteolytic, ferments and are at the lesion to digest and remove the debris of the tissues of the host that have been killed during the acute stages of the process. If much tissue has been destroyed and much must be removed, it may even happen that the number of polymorphonuclears is so great as to obscure the presence of the lymphocytes and make the diagnosis of syphilis rather uncertain. However, as the acute symptoms abate, such difficulties as may exist in this regard vanish, as the polymorphonuclears act quicker and leave the field to the less speedy lymphocytes in the same proportion as the tissue debris have been removed. In chronic ailments, therefore, any bit of the diseased tissue, may it be gained by excision or during operation or at autopsy, will enable us to diagnose syphilis if the cellular infiltration is composed principally of lymphocytes and plasma cells and tuberculosis can be excluded.

Because of the lymphocytic nature of the cellular infiltration at the site of syphilitic or tubercular lesions it is but natural that also the discharges issuing from such lesions are of lymphocytic character. Thus, we find the cellular elements made up of lymphocytes in syphilitic spinal fluids, in syphilitic and tubercular pleural exudations and in syphilitic and tubercular sputa. This characteristic feature, that is, the more or less conspicuous predominance of lymphocytes over polymorphonuclear leucocytes in exudations and discharges, has never been used for the diagnosis of syphilis, but has great potentialities when properly studied, provided the same limitations are applied that have been mentioned above. Super-infections of the various types may here, however, obscure the characteristic picture in the same, or even a higher, degree by a profusion of polymorphonuclears as does the destruction of the host's tissue in the microscopic test. This is true especially if the discharges come from places where super-infections frequently exist, as in the nose and throat. Discharges from running ears or fistulas of the various kinds do not so readily offer this diagnostic difficulty. In the case of the lungs, a lymphocytic sputum with

a persistent absence of T. B. points to syphilis.

To find out just what the percentage of lymphocytes must be to clinch the diagnosis of syphilis in a given case must be left to those who specialize in the respective field, as the material necessary for observations is only in their hands.

*Comment.* The connection between syphilis and chronic ailments has been indicated clearly by Warthin in his commendable work on the pathology of syphilis. His statement that "the proportion of syphilitics in our ailing class is very high" is undoubtedly correct, as it is in this "ailing class" principally that the syphilitics are hiding who make up the difference between the assumed 10 to 15 per cent. and the existing 50 per cent. afflicted with this ailment. Just how high this percentage is we are unable to tell until the results from the application of the test given above begin to be published on a larger scale. However, full information as to the presence of syphilis and full benefit to our patients are not obtainable unless the test is made wherever the necessary bit of tissue is obtainable, no matter whether it comes from the nose, the throat, a chronically inflamed appendix, an ulcer of the stomach, a gall bladder, an ovary, a Fallopian tube or from any other pathologic organ. As no organ is exempt from this infection, no chronically diseased organ should be above suspicion. Thus, the routine employment of the test gives surgeons and specialists an unusual opportunity to benefit their patients by checking up their diagnosis and avoiding errors, while, incidentally, contributing to a better knowledge of syphilis. In a still higher degree the pathologist is benefited. At autopsy, the diagnosis of syphilis is possible in 100 per cent. of the cases without the laborious and time-consuming investigations as made by Warthin.

For the sake of justice, however, it is necessary to approach a subject of such great importance as the relation of syphilis to chronic ailments with a fair openmindedness and a willingness to be convinced, if facts warrant it. Nothing is gained by that deplorable spirit of ultraconservatism that rejects, as shown above, the diagnosis of syphilis even in a dead born child full of *treponemata*. It is that same inexcusable, blighting spirit that prompts antitoxinists to send, without a qualm of conscience, annually 10,000 diphtheritic American children to an untimely, preventable death rather than to accede

to the request, made time and time again, for an official investigation of their unspeakably silly, murderous antitoxin theory. If the same destructive policy of silence that is so effectively used to kill those children is applied also in this instance, hundreds of thousands of chronically ailing people must continue to suffer for sheer lack of a proper diagnosis. It is the general practitioner who gets their cases. Unless he is better informed by a free discussion of these matters, progress can not be accomplished and the great lessons resulting from such splendid work as Warthin's must continue to go unheeded in the same way as before to the greatest detriment of the ailing human race.

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#### PREVENTIVE MEDICINE IN NERVOUS AND MENTAL DISEASES\*

##### OUTLINING A METHOD OF APPROACH, CASE HISTORY REPORTS AND RESULTS OBTAINED

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Along with our efforts as physicians to cure disease processes, we have integrated at even a higher level in directing our energies and scientific training towards the prevention of these processes.

What has been done in the work for the prevention of tuberculosis, some of us are trying to do in the field of nervous and mental diseases.

If you wish to study individuals, it is necessary to go where you can first come in contact with large groups and, secondly, where you can have more or less control over them. The start of investigation along these lines in schools was first made in a few universities, and we found out that at this age a great many unhealthy mental conditions were in full development. If we could only begin at an earlier age we might be able to obtain better results. With this in view, a little over a year ago, I went to Culver

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Military Academy, which, as you all know, is a preparatory school, to study the situation.

If we look at the psychoses and neuroses for a few minutes from a symptomatic viewpoint, what do we see? There is one symptom that we find in common; that is the inability of the individual to face facts as they are. This symptom varies from mild conditions of anxiety to severe stages of absolute regression, wherein the patient is merely a vegetating mass. This one symptom is comparable to the rise in temperature which we find in all of our infectious disease conditions, or to the convulsive seizure which we find in the epilepsies. It is not many years ago that we diagnosed a case of epilepsy mainly because one had convulsive seizures. Then we found out that there was a definite disease of the central nervous system caused by the spirochete and that one of the symptoms in common with the epilepsies was the presence of convulsive seizures. We then found other symptoms that went with these seizures until now we have completely separated general paresis from the epilepsies. Another group that has been taken away are endocrinolepsies. I think the same thing will happen to the psychoses and neuroses.

For purpose of study I arbitrarily divide the human being into five units, realizing that all of these units must have an inter-relation or the whole individual could not function at his maximum capacity. Also keeping definitely in mind that the patient has the disease and not, that the disease has the patient.

Realizing that our oldest inheritance is a physical one, I began by studying the physical. As the race developed we integrated always at a higher level until we have reached present day man. After the physical, the next step up the scale is the chemical and at this level we study the various glands of internal secretion. At the next integration we study the nervous system. Here we have many things to study that can be taken by themselves, always keeping in mind that the physical and chemical units are inter-related with the nervous system. The next division, which is the fourth, is the psyche. This, I again divide into, first, intelligence, and second, emotions. Under intelligence we have those who are mentally defective and those who are not. Under the mental defectives, we have those who are academically defective and those who are defective in general education. Now

that we have the individual divided into four units, he is of little value unless he can fit into society. A very important thing is how the individual functions in the place where he must live, because after all, we may all think as we wish, but we must act according to the well defined rules of society.

What are some of the things for which we search in the physical? One is the actual pathology that might be the cause of our psychoses and neuroses. De Lee and Crothers<sup>1</sup> say: "Babies can be and frequently are, seriously and even fatally injured even if the forces used in delivery are well within what are regarded as normal limits." In cases of asphyxia neonatorum, when the circulation is cut off and the baby is left inside the uterus for an indefinite period, damage is done quite frequently and we may not notice the effects of this for years afterwards. You are all more or less familiar with the work done by Sharp and McClaire<sup>2</sup> at the New York Polyclinic Hospital where they performed a lumbar puncture within from 12 to 48 hours after birth on 500 new-born babies, and found bloody and blood-tinged cerebrospinal fluid in 45 babies, that is 9%. Isn't it advisable to keep a rather close supervision on this 9%? There is also a small group of people with small aplastic hearts. We have a test which is a great help in diagnosing these cases. It is the neuro-circulatory test used during the war to eliminate men who were unfit to fly. After the war I applied this test<sup>3</sup> to a group of known psychotic cases at St. Elizabeth's Hospital and found that it indicated the hebephrenic and catatonic types of dementia praecox, while the manic depressive and paranoid dementia praecox had a different type of rating altogether. In giving the test the patient reclines for five minutes while his blood pressure and pulse rate are taken; he then stands and the blood pressure and pulse rate are again taken. He then goes through a standard exercise climbing up and down on a chair ten times in 15 seconds. The pulse rate is taken and the number of seconds it requires the pulse to return to normal is also noted. Eighteen points is the highest obtainable rating and it was found that those grading below 10 points or the ones having a low rating were in the hebephrenic and catatonic types of praecox. I then made a revision of this test so that it could be applied to school children between the ages of 10 and 15 years

and applied it to 100 children in the Junior High Schools of the District of Columbia and the test indicated a number of children having a low grading.<sup>4</sup> When the list was presented to the principal of the Junior High School, she stated that, if the physician had been there the entire year, he could not have selected a group of pupils who were giving them more concern. Upon examining these children, it was found that they had many neurotic symptoms. The test was then worked out on 100 feeble-minded children<sup>5</sup> in the Walter Fernal School, Waverly, Mass., and it was found that the mental defective individual had a high rating, in fact, only two out of the 100 rated low. This test was next applied to the senior class at Culver Military Academy and six men had low ratings, out of 161. These men were examined and they all had very significant histories. I will give one of these cases later which will illustrate what I mean. The test has been performed on 250 plebes, ten of whom had low ratings. They are under careful supervision at present.

We also look for the various organic inferiorities and the obvious physical inferiorities such as hare-lip, etc., also infections.

What other evidence have we that there are some types of nervous and mental disease due to an extra-neural pathology? Lewis<sup>6</sup> found, in going over some 4,800 necropsies that 71.55% of the hebephrenic and catatonic types of dementia praecox had a small aplastic heart. The incomplete development involved also the capillary system. In the study of the weight of the heart in psychoses, 75.5% of the patients with dementia praecox had hearts of less than average weight, while only 7.8% of the patients with paranoid dementia praecox had hearts of less than average weight and 30% of the patients with manic depressive psychosis had hearts of less than average weight. Fulstow<sup>7</sup> recently reported on a large group of heart weights in the psychoses. She did not, however, take into consideration the size of the heart. While she did not find as high a percentage of hearts below average weight in the hebephrenic and catatonic type of dementia praecox as Lewis, nevertheless, the percentage was high enough to indicate that we should at least consider that there is a certain type of psychoses in which there is an extra-neural pathology.

C. H.—Is 18 years of age and according to tests has

an IQ of 114, and up until his 16th year he was a very good student. From his 16th year up to the present, when this history was taken he was not passing his subjects. Along with this he was becoming careless, indifferent and rather untidy about his personal appearance. He graded 9 on the neuro-circulatory test. Family history was practically negative. He was the second in a family of two, having an older sister. No history of difficult labor, enuresis, or rumination. As far as could be ascertained the home environment was good, passed all of his grades in school regularly, no serious accident or illness of any kind. Always got along nicely at home and with his teachers in school. His report cards always stated he was neat and tidy about his work and eager to get ahead. Family had never had any cause to worry about him until after his 16th year, when his work indicated a falling off. Various instructors stated that he was indifferent. In some classes he was careless about his written work, in other classes they stated he was erratic about his oral work and as you go over his school records for the two years, you find a constant struggle between the boy, his parents, and instructors. On examination, we found a rather slender, dark complexioned, clean boy who laughed at the wrong time. He was passive and co-operative because it was the line of least resistance, he was sociable and deliberate. He had no well defined plans for the future except to go to college, but he didn't know how he was going to get there. At times would bite his finger nails and when questioned concerning this stated—"I guess I am nervous. When I am reading an exciting book I chew my finger nails." "If I have anything to do, I don't know, I just neglect it." Laughs when he tells this. Gives one the impression that there is no emotional depth. In talking to the boy one could get very little response, there was a lack of interest in everything, indoors or out, with the possible exception of tennis, but this was rather a superficial interest. When questioned concerning the future he said, "I'll just wait and something will turn up." The physical examination was practically negative, with the exception of the low rating on the neuro-circulatory test. He was also 12 pounds under-weight. Neurologically, there was nothing of importance with the exception of the reflexes which were only obtained upon reinforcement. His endocrinological examination was negative.

*Summary and Recommendation.* It is not necessary to draw very far on the imagination if one remembers the history of dementia praecox patients, especially the hebephrenic and catatonic types, who have a regressive mechanism, to recognize very similar symptoms in this case. Also keeping in mind that the neurocirculatory test was applied to 161 boys and out of the number only 6 indicated a low grade, which was the only reason for their being studied. The parents were then advised to take the boy, after he finished school, to a physician in their own community who was trained in psychiatry and neurology; to endeavor to get the boy interested in some type of work during his summer vacation and not to push him; whenever the boy showed any initiative to encourage him in this, also, if



at the end of the summer, he showed any inclination to go to university to assist him in making his plans but for the father not to make all of the plans. It was pointed out to the father that the important thing to do was to get this boy trained in something he was capable of doing, even though it were a mediocre position. The father could plainly see that there had been a marked change in the boy's personality and this had been taking place during the past two years. Up until this time, the boy had been active in his studies, the various school activities, and in athletics, but now he was more or less indifferent toward everything. What impressed the father most was that the boy made no complaint, but was very passive.

The other five case histories were somewhat similar to this and time and space do not permit me to give case histories of other types of physical defects that are responsible for the psychoses.

The next level of investigation is the chemical which includes the glands of internal secretion.

It is necessary only briefly to mention the cases of hypo-thyroid and hyper-thyroid cases as we all are more or less familiar with them. I will give a case history of a glandular condition in which all of the symptoms, at least the ones that were getting the patient into difficulties, are manifested at the social level.

S. H.—Is an over-developed boy of 15 with an I. Q. of 109, who had always passed every grade, but because of his behavior had been expelled from several schools. The things he did were not of a vicious nature. To illustrate, in the last school which the boy attended it was the custom when an individual had 200 demerits in the entire year he would be dropped from the school. This boy received 173 demerits within one month and before the school year was over he had received 1,000 demerits. He would throw food in the mess hall, would talk back when spoken to, was late at formations, in fact, was in difficulty all of the time. His instructors liked him and would spend many hours talking to him. He would promise them to do better and within the next 24 hours would be in difficulty again.

*Family History.* He was the older in a family of two, was a premature baby, long and difficult labor, and had various diseases of childhood. When he was 6 years of age his father was serving as an officer in the Army and the boy lived with his grandparents. They, of course, were over-indulgent with him. The mother states—"As far back as I can remember, I was always afraid to call at the school, because they had something to tell me about S." They had been using bribes to get the boy to do things for many years. On examination, the boy was co-operative, answered questions willingly and asked many intelligent questions concerning his physical examination, was interested in this, but in general was rather childish in his reaction. He stated—"I always pass my subjects. I don't think that anyone who has to work very hard is intelligent."

At this time the school authorities were on the point of dismissing the boy. It seemed as if everyone had exhausted their patience in talking with the youngster concerning his various escapades. Finally, the Superintendent sent for the boy and spent about an hour talking with him. The youngster promised him that he would do better. Within the next week the boy had jumped in the swimming pool with all of his clothing on, and of course, after this the school authorities and the parents had practically given up all hopes.

*Physical Examination.* The boy was 5 ft. 11 in. tall and weighed 175 pounds, and was 15 years of age. Complained of growing pains occasionally, in the night; otherwise, the physical examination was negative. His neuro-circulatory test rated 15 points. His neurological examination was practically negative. His endocrinological examination showed the following: History of an uncle being over 6 ft. 2 in. tall and of an aunt having goiter. The boy had a slight maxillary torus, broad pelvis, slight hyper-extension of the joints, and the fluoroscope indicated a slight thymic shadow. His skin was soft and pink, teeth in general were slow to develop, very little hair development on his body, in fact it was silky and downy in appearance. The pubic hair was masculine in development, the breasts were well developed and there was a mottling of the skin. No laboratory tests were made. Diagnosis of persistent thymus was made.

*Recommendations and Treatment.* The boy's reclining pulse was 52 and standing pulse 78. The boy was given one drop of sodium iodide once a day. His pulse rate was taken each day after a two minute rest. The parents and the instructors were told to treat him more as a grown up boy and pay less attention to his childish tricks and arguments. To stop telling him that he must do better and to put him more on his own by placing responsibility on him, and to assume the attitude that he would shoulder the responsibility without talking to him about it and not argue with him. Also to stop bribing him when they wished to get him to do things. At the end of two months this boy's pulse rate went up over 84 and he commenced to lose some of his flesh. He took up boxing, his discipline grade became somewhat better, in fact he had not been on the report sheet for a period of two weeks, which was something that had not happened in the past several years. Of course, this was partially due to the fact that they were not placing him on the report sheet for so many trivial things as formerly; however, he was not actually getting into as much difficulty as he had before. This boy physically, appeared 17 years of age, mentally he was approximately 16 years of age, and, of course, all of his instructors, including his parents viewed him and his actions as a boy of this age. Now physiologically he was only about 8 or 9 years of age because of the persistence of the thymic gland which caused a dysfunctioning of all other glands, and consequently the boy acted like a kid. There was probably a hypo-thyroid secretion because of the low pulse rate and the sluggishness of his reactions at times, and a hyper-pituitary because of the length of his long bones. These secretions were evidently readjusted when the

sodium iodide was given. I have had several cases of this type.

The next level for study is that of the nervous system. As we do not have any of these conditions at the military school because of our physical requirements for entrance, I will only briefly mention in passing, some of the types that have mental symptoms; the juvenile paretics, hemiplegia cases with mental symptoms and the post or rather chronic encephalitis cases. It is necessary to approach the latter two from a re-educational standpoint. I will omit case histories in this group and will continue with the fourth level which is the psyche.

The first thing to investigate at this level is whether the individual has mental equipment sufficient to carry him through the things that he is attempting to do, or is it an emotional problem which is not permitting him the full use of his mental ability? In this examination, it is necessary to be very careful and not lay too much stress on academic intelligence because, quite frequently, you find individuals who are well founded in general education, who are quite keen in seeing and sensing situations, but are unable to pass academic subject. One can find the various intelligence tests very helpful, but they should be used in the same manner as are x-rays and Wassermanns; in other words, you will make many mistakes if you permit the laboratory to make your diagnoses.\* In the past year I have found many cases of boys with a high degree of intelligence, both academic and general, but they have been failing not only in their subjects, but in making an adjustment to the school environment, simply because they had so many emotional difficulties. I have found many cases of rather mediocre intelligence who were making very good grades and who were ranked high in the general activities of the school, that is, they were cadet officers and active in athletics. It soon becomes very obvious that it is not the amount of intellect we have, but rather it is the ability to understand ourselves and use the intellect which we have.

At this level I am trying to deal with a group who have, so far as I am able to ascertain, purely a psycho-pathology. I will give some case histories which will probably explain more thoroughly what I am trying to bring out. I will try to bring out the reason for abnormal behavior, that is, abnormal thoughts and actions and their causes as they are found in individuals through

the study of psycho-pathology. There is not time nor space in this paper to take up the various concepts, such as Freud's<sup>8</sup> discovery that the wish is the dynamic factor in the personality, and Pawlow's on the conditioned reflex or the school of behaviorism, Kempf's<sup>9</sup> autonomic-affective cravings, and the various other analytical studies made by Bleuler, Jung, Jones, Ferenzi, Adler, White and Jelliffe. I would, however, for a moment like to point out the teaching of Adolf Meyer in which he states that "The psychiatrist, psychologist or physiologist must do more than think of the isolated phenomena which he happens to be interested in, such as the hallucinations, the content of consciousness or the physiological functions of a neurone or segment, if he wishes to understand the entire problem and see the phenomena as it occurs in its relationship to the personality or organism as a whole."

X—A well-developed, clean, alert boy age 17 years who has a rather high I. Q. of 120. He was in the third year of preparatory school and was having some difficulty with his studies. During vacation time he would drink heavily, would associate with bootleggers, sneak-thieves, and their families. During the last Christmas holidays he had assisted in breaking into a clothing store where they had stolen a great many suits and overcoats.

*Family History.* The boy was the first of a family of three, 10 hour labor, instruments were used. He was breast-fed for nine months, but they always had difficulty in feeding him. No history of enuresis or rumination. He walked and talked at approximately 14 months of age. Whooping cough at 7 years, chorea between 8 and 9 years, scarlet fever at the age of 12. Cried a great deal as a baby and began biting his finger nails at an early age. Upon examination the boy was found to be co-operative, alert, and capable of giving his history in an intelligent manner. In fact, he explained why he had made several visits to the office, merely for the purpose of studying the physician to see if he could tell him his history. He was taught at home until he reached the age of 7 years, was then put in a private school and got along very nicely. His mother used to keep him at home a great deal and talk to him. The father was drinking and the boy stated that the mother used to plead with him not to drink. She would talk to him by the hour concerning his father's drinking. This would make the boy very nervous. The father would insist that the boy come to the station to meet him evenings when he returned from the city, and the youngster used to resent this, because he stated that he knew his father had been drinking and would return home and abuse his mother and that there would be trouble. This state of affairs continued until the boy developed chorea between his 8th and 9th years, and was in bed for a period of several months. He evidently made a fairly good re-



covery, but the family condition continued up until his 12th or 13th year. Up until this time he had been a model boy as far as his mother was concerned. It was about this time that the father was examined by a physician and was informed that unless he took better care of himself he would die from kidney disease. The family moved away from this section of the country and the father gave up drinking altogether. This, of course, made a difference in the family condition and relationship. Now the boy was not as necessary to his mother as he had been formerly and he noticed this. When he was 14 years old he began to steal things from home and began to get into difficulties at school, would associate with the worst boys and girls in the school; then he began to drink and finally reached the point where the family could do nothing with him at all. The boy was very proud and liked to associate with nice people, and when questioned concerning his desire to associate with bootleggers, etc., he stated—"I don't know why I go with them because I do not like them. I don't like the way they live, I really want to associate with nice people, but somehow I find myself with them." "I don't like these people at all, I simply detest their type of life." He rated 15 on the neuro-circulatory test. The physical examination was negative, neurological and endocrinological examinations were also negative.

*Summary and Recommendations.* We have difficult labor, trouble with feeding, a little slow in walking and talking and we find that during his early period and age of childhood up until the age of 11 or 12, he was very close to his mother. He resented the quarrels which his father and mother had. He stood up for his mother during all this period even when his younger brother stood for his father. He always took the part of his mother. The mother took all of her energy out on this boy, when she became nervous, the child became excited, she talked to him continually concerning drinking and the bad effects of drinking. He said as a child he did not confide in his father. Then, the relationship between the father and the mother was taken up again in an entirely different manner. Naturally, the mother's attentions and affections were not as strong toward the boy as formerly after the family life was straightened out. The emotional outlet was then turned toward the husband and the boy was left more or less without the affections to which he had been accustomed. It was during this period that he commenced to be a little wild and take up drinking himself. Finally, he drank very heavily. It is not very difficult to observe that his father had won back his mother by stopping the drink habit, therefore, why not the boy? This reconstruction period of the father came at a very serious time of life for the boy, because during this age he is passing through his homosexual period and is even now attempting to make his heterosexual adjustment. This case fits very nicely into the Oedipus complex. Analysis was commenced on this boy over a year and a half ago. He is getting good grades now and will graduate from preparatory school this year. He did not drink nor steal anything during the last Christmas holiday and is

very eager to go to college. The most important point, of course, is that he now listens to his father's advice and writes letters to him, something that he never did before.

The last division of this arbitrary arrangement is the social. The home is a big factor in our problem at the social level. Of course, you will realize that it is very difficult to state that the pathology exists definitely at the social level. An only child is a disease just the same as measles or mumps, also the oldest child and the youngest child usually when he comes late in life after the other children are well up in years, and, too, you find that the only boy among a family of girls or an only girl among a family of boys is usually a problem. Just as in measles and mumps, in some cases we have no complications, so do we find many of the above conditions without complications and the children recover very nicely. Children in homes can be spoiled just as easily by applying too much discipline as by not applying any. The emotional problems of the parents are quickly transferred to the children.

C. D.—A rather slender under-developed boy of 14 years with an I. Q. of 110, who entered school two years ago. He immediately resented all authority, talked back to his instructors, quarrelled with the other boys and consistently failed in his studies. Family history showed that he was an only child and that the father was a domineering type. He happened to be a big business man in his community so he was frequently spoken of as a man of "Iron-will." Now if he had been a man of no particular social standing, we would have probably called him a "brute." The mother always protected the lad, consequently there was a continual dispute over the boy, in front of the boy. It was a rather difficult labor, boy was bottle-fed walked and talked at an early age, had all of the diseases of childhood, was pampered by the mother and bossed by the father. The father would boast about the boy in company, telling how he was going to make a wonderful boxer out of him and a great athlete. The boy did not care anything at all about athletics with the exception of tennis. It had reached the point where the boy was afraid to play with anyone his own age or older than himself because he did not dare come home and say that he had been beaten, so consequently, he was always playing with younger boys. Upon examination, it was found he was a rather slender lad, who was evasive, irritable, and quick to anger. He finally told how on one occasion the father criticized him severely before a group of other boys his own age, in fact, he lectured the boy at length on his various faults. The boy was failing in his school work, was very low in his discipline and could not get along with anyone. In fact, he was an absolute failure in the school, academically and otherwise. On the physical examination he

was found to be 15 pounds under-weight, but otherwise, in good condition. The neuro-circulatory test, he graded 14. His neurological and endocrinological examinations were negative.

**Summary and Recommendations.** The situation was explained to the father. It was pointed out to him that because he himself never had the advantages that the boy had, he was trying to make this boy into an athlete and was domineering him too much. The father was trying to absorb the boy's own individuality and, of course, the boy resented this. The military school probably was not the correct place for a boy of this type because he so resented authority and would immediately transfer his resentment from the father to the school authorities, especially from the disciplinary standpoint, so the father was advised to place him in another type of school away from home. This situation was also explained to the boy and the whole thing worked out in detail for him.

I hope that I have succeeded in making it clear to you what I mean by taking an individual as a whole unit. The interesting part is that in the application of this method of approach, it has produced practical results. I think that we will all agree that preventive medicine is always the best medicine.

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#### EYE INJURIES

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One of the most important branches of the entire field of surgery is the treatment of eye injuries. They occur in all walks of life and to old and young. Every physician is called upon to treat these injuries and he should be prepared to give some kind of proper first aid treatment.

Of these injuries the most common are those in which a foreign body is imbedded in the cornea. When they are not too deeply imbedded they can be readily removed by the aid of a

magnifying glass and a foreign body spud. For this a plus 20.00 ds or a plus 24.00 ds lens, which has about a two inch focus, should be used. When the foreign body is deeply imbedded, or when there remains a small ring of stained tissue after the foreign body is removed the case should be referred to those who have had special training in this kind of work.

However the physician first called should give whatever relief he can and therefore I think is fully justified in removing at least a part of the foreign body providing this is done under the proper aseptic precautions. A foreign body on the cornea is exceedingly uncomfortable, often quite painful, and any relief you can give them will be much appreciated.

For the removal of these anesthesia is obtained by instilling into the eye a 1 per cent. solution of Holocaine—(a derivative of Phenacetine)—followed in five to ten minutes by one or more instillations of 2 to 4 per cent. cocaine in a 1/5000 adrenalin chloride solution. In some cases of marked irritation with profuse lachrymation it may be necessary to use an 8 or 10 per cent. cocain solution in order to obtain good anesthesia. It should be remembered that cocaine solutions soften the cornea which sometimes becomes denuded of its epithelium. To avoid this the patient is directed to keep the eye closed for five minutes after instilling the cocaine. Holocaine has the advantage of being somewhat antiseptic and does not soften the corneal epithelium. The foreign body spud preferred is one with a small lance shaped blade slightly curved on the flat and with the point rounded but sharp, resembling somewhat a flat scoop. With such a spud the foreign body can be lifted out with the least damage to the cornea. However, when the foreign body is hard, very small and deeply imbedded, it becomes necessary to use a cutting instrument. For this purpose an instrument is used which has a sharp angular blade set almost at a right angle to the handle. With this it is possible to cut in around and under the foreign body, thereby dislodging it from its bed. This instrument is especially useful where such a foreign body has entered the cornea at a very acute angle and penetrated Bowman's membrane. The danger then is that in attempting its removal it may be forced into the anterior chamber.

The instruments are sterilized by immersing



them in a 95 per cent. solution of phenol for five minutes or more and then in grain alcohol for 15 minutes. A Coddington lens, with a one inch focus and a magnifying power of 10 diameters is used in most cases. When the foreign body is exceedingly small, as for instance the pulverized sand which finds its way into the eyes of railroad employees after it has been ground under the wheels, a similar lens with a one-half inch focus and a magnifying power of 14 diameters is used. After the foreign body has been removed a few drops of a 20 per cent. solution of Argyrol, Silvol, Neo Silvol or Protargol, or better still a 2 per cent. solution of Mercuriochrom 220 should be introduced and the eye banded. Mercuriochrom has the advantage of discoloring the wound or any abrasion.

Foreign bodies imbedded in the conjunctiva are readily removed with a small tooth pick swab and usually require no further treatment. If they are deeply imbedded it is often necessary to hold the eye lids with a speculum and remove the foreign body with forceps and scissors.

In penetrating wounds of the eye it is important to ascertain how the injury occurred and the nature of the object which penetrated the eye. The wound is carefully inspected; its location and extent determined; loose shreds of tissue and any foreign substance removed after thoroughly cleansing and cocainizing. Prolapsed iris or other tissues are carefully removed with forceps and scissors. Any cuts in the sclera, or extensive cuts or lacerations of the conjunctiva and lids should be sutured. In suturing the eye lids it is of the utmost importance to properly approximate the cut ends of the free lid margin. The conjunctiva and the skin should be sutured separately. Extensive cuts in the cornea are best covered with a conjunctival flap.

Penetrating wounds of the eye are seldom, if ever, probed. The only injuries where probing might be justified are those caused by broken glass, for the reason that most kinds of glass would not be shown by the x-ray. Then too the information gained by probing an eye is usually of little value and much damage may be done, or infection carried from the surface of the wound to the interior of the eye. In all penetrating wounds of the eye where there is any possibility or probability of a foreign body remaining in the eye x-ray plates should be made

by a thorough, competent roentgenologist. I wish to emphasize this point especially for the reason that in the past three years four cases have come to our attention in which the foreign body was overlooked in the first set of x-ray plates but plainly located in the plates made subsequently in another laboratory, and the particles of steel removed with an electro magnet. It is always safe to use atropine in an eye with a penetrating wound. The best magnet for this purpose is the giant electro magnet, for the reason that most of the particles can then be removed without introducing the tip of the magnet into the eye, thus avoiding the danger of infection as well as the necessity of making an incision into the globe.

The following is a brief summary of 1,122 injury cases taken from my records over a period of two years. These cases constitute all forms of injuries which one is called on to treat in an industrial community. A large majority of the cases came from the industries. The non-industrial, constituting only 8 per cent. of the total, are represented by children, pedestrians, and men and women from offices and homes engaged in their various duties.

Of the industrial group the largest number of injuries occurred among railroaders, there being 415, or 37 per cent. This group includes engineers, firemen, switchmen, brakemen, conductors, car repairers and all kinds of railroad laborers. The next in frequency is the steel group with 199, or 17.7 per cent. These include machinists, boiler makers, blacksmiths, ironworkers, and all those engaged in shop work. Then come laborers with 171 cases, or 15.2 per cent. After that coal miners with 77 cases, or 6.8 per cent. After this come tanners and sheet metal workers with 19 cases or 1.6 per cent.; electricians and carpenters each with 18 cases, or 1.6 per cent.; acetylene welders with 10 cases, less than 1 per cent., and a few cases each of painters, plasterers, brick layers, glass workers, and those engaged in the manufacture of fireworks and other explosives.

As stated before the most common eye injuries are foreign bodies of the cornea. These constitute 68 per cent. The next in frequency are the foreign bodies of the conjunctiva of which there are about 10 per cent. Then come lacerations of the cornea, conjunctiva and eye lids, of which

there were 9 per cent. Following this in frequency are burns with hot metals, acids, caustics and electricity, about 5.7 per cent. Last in frequency are severe contusions and penetrating wounds, about 5 per cent. of the total number of injuries.

The entire series has been divided into two groups. *First Minor Injuries:* Those with foreign bodies imbedded in the coats of the eye; non-penetrating cuts and lacerations, and first and second degree burns; 1,073, or 95 per cent. of the cases, come in this group. In the second group, or *the Major Injuries* are classed all the more serious injuries, as penetrating wounds of the globe and orbit, extensive lacerations of the eye lids with an accompanying contusion of the eye ball, and third degree burns. These constitute only fifty cases, or 5 per cent. of the total.

We will now study these 50 major cases a little more in detail. Of these 50 cases 30 had penetrating wounds of the globe, of which 7 had a retained particle of steel which was removed with the electro magnet. X-ray plates were made in 20 cases, of which 9 were positive. In two of these cases the piece of metal was lodged in the socket outside of the eyeball, and allowed to remain. The fragments of steel removed from the interior of the eyes ranged from  $1 \times \frac{1}{2} \times 1\frac{1}{2}$  Mm. in diameter to  $1 \times 5 \times 15$  Mm. in diameter. The final results in these cases are disappointing.

Of the 50 major cases one had a dislocated lens; four eyes were enucleated; 5 developed a detached retina; 8 had third degree burns; 12 developed traumatic cataract; 12 iridectomies were done; 13 recovered with normal vision.

The occupation ranged as follows: 1 was engaged in housework, 1 car repairer, 1 blacksmith, 2 boiler makers, 2 coal miners, 2 iron workers, 3 railroad laborers, 4 carpenter laborers, 6 machinists, 6 pedestrians, and 7 laborers. 12 were children. Of the 12 children 7 had penetrating wounds and in 4 of these an iridectomy was done. 1 recovered with vision  $5/120$ ; 2 had traumatic cataract with vision 1. p.; 3 had  $20/100$  vision; 4 recovered with normal vision and 2 eyes became blind.

Not infrequently ulcers follow injuries or foreign bodies of the cornea. These require energetic treatment by one of three methods. First by instilling drops in the eye such as solutions

of silver nitrate or the different salts of silver, mercurio chrom, or numoquin hydrochloride (Optochin). Optochin is supposed to be almost a specific for the pneumococcus, and mercurio chrom for the gonococcus. These are useful agents but do not always stop the progress of the ulcer. Then we resort to various cauterizing agents, such as phenol, tincture of iodine, and 10 per cent. silver nitrate. These are applied directly to the ulcer with a toothpick. The writer has obtained splendid results by applying to the ulcer a solution of phenol saturated with iodine crystals. The eye is thoroughly anesthetized with holocaine, cocaine and adrenalin. The patient is placed in a reclining or semireclining position and directed to fix the eye in a direction to bring the ulcer to the highest point on the globe. The ulcer is then swabbed clean with a tooth pick dipped in tincture of iodine, or if there is a dense necrotic mass in the ulcer this is removed with a foreign body spud. The ulcer pit is then filled with the saturated P. I. solution applied with a tooth pick and the eye lids held open for three to five minutes, after which it is flushed with boric acid solution, a drop of atropine and cocaine 1 per cent. in castor oil is instilled and the eye bandaged.

The best and most modern treatment of corneal ulcers is by the use of the electric thermophore as developed by Dr. Wm. E. Shahan of St. Louis. This instrument consists essentially of a metallic pencil or tip with a blunted end heated by an electric thermophore to a constant heat, the temperature being registered on a thermometer connected with the instrument. The tips are made in different sizes and interchangeable to correspond to the size of the ulcer. After thoroughly cocainizing the eye this heated tip is held in contact with the ulcer for  $1\frac{1}{2}$  minutes at a temperature of 140 degrees. It has been found that this is sufficient to kill the pneumococcus.

In about 90 per cent. of the cases the ulcer is "Stopped" by one application of the thermophore. In a few cases there will be a slight extension of the infection at one edge of the ulcer and a second application is necessary. The after treatment consists mostly in using atrophine sufficient for comfort and to keep the pupil well dilated. There is little or no pain during the application of the thermophore if the eye has



been thoroughly cocainized. Since the ulcer is usually stopped with one treatment, while it is still small, the resulting scars are smaller than in those cases where the ulcer attains a considerable size before it is stopped.

An application to the conjunctival sac of Butesin Picrate Eye Ointment 1% is of great value in all eye injuries.

## Society Proceedings

### ADAMS COUNTY

A regular monthly meeting of the Council was held at the Quincy Elks Club at noon, July 15, 1927. The following attended: Drs. Knox, Wells, McReynolds, M. Bitter, Center, Koch, Blomer, Cohen, Swanberg, Stevenson, and Mr. Charles E. Carley of the Associated Credit Bureau of Quincy as guest.

In the absence of the President, Dr. Center presided. Dr. T. B. Knox reported the meeting of the house of Delegates of the Illinois State Medical Society at Moline. The Secretary outlined the tentative plans for the big all-day meeting of the Society on November 14. Dr. Frank Cohen presented the following report of the Professional Collecting Committee and made a motion that it be accepted.

Mr. C. Carley, Secretary of the Associated Credit Bureau makes the following offer to the physicians of the Adams County Medical Society:

By becoming a member of the Associated Credit Bureau—dues \$25.00 a year—a physician will have access to the information in the files by 'phone until 5:00 p. m. week-days. Will be supplied with lists of "no credits" which will be of assistance, especially after 5:00 p. m., and other times. Additions will be made to the files of interest to physicians especially as to non-payment to physicians.

If the number joining this movement be at least 30 the Bureau would undertake to make collections having a regular designated person for this task, for 25 per cent of collections.

The committee recommends: That the Adams County Medical Society should not as a society embrace the proposition of Mr. Carley, for the Associated Credit Bureau, but the Society should do everything in its power to make such a plan a success.

Furthermore, the committee recommends that the Council endorse the plan of Mr. Carley, and that it recommends him to interview the individual members of the Society with a view to carrying it out. Whether or not the plan will be carried into full effect will depend on the individual members.

FRANK COHEN (Signed)

ALDO GERMANN (Signed)

MILTON BITTER (Signed)

At this time Mr. Carley, Secretary of the Associated Credit Bureau was given the privilege of the

floor and addressed the Council on the proposed collection system for the physicians of Quincy. Dr. Knox made a substitute motion that Mr. Carley submit in writing a more detailed plan of his proposed credit and collections to physicians, this to be submitted at the next meeting of the Council and published in the Bulletin. Seconded and carried. Dr. Stevenson gave a report of the picnic held in June.

The meeting adjourned at 1:30 p. m.

HAROLD SWANBERG, M. D.

Secretary.

## Marriages

LAWRENCE A. DONDANVILLE, Moline, Ill., to Miss Eva Catherine Ender of Deerfield, June 15.

GEORGE E. DUDENBOSTEL, Chicago, to Miss Nona Russell of Ashdown, Ark., June 28.

JAMES CRESCENT REDINGTON to Miss Evelyn Hansen, both of Galesburg, Ill., June 27.

GUY WATTS WAGNER to Miss Blanche E. Thomas, both of Chicago, June 4.

## Personals

Dr. Herman L. Kretschmer has been elected a corresponding member of the Hungarian Urological Association.

Dr. and Mrs. John S. Allen, Keithsburg, celebrated their golden wedding anniversary June 21.

Dr. Fred M. F. Meixner, Peoria, has been appointed an examiner of aviators by the U. S. Department of Commerce.

Dr. Harry Olin, St. Louis, has been appointed radiologist to St. Elizabeth's Hospital, Danville, to succeed the late Dr. William H. Miner.

Dr. Dallas B. Phemister was elected president for the ensuing year of the Alumni Association of Rush Medical College of the University of Chicago, and Dr. Charles A. Parker, secretary.

An oil painting of the late Dr. William E. Schroeder, chief of staff of Wesley Memorial Hospital, was unveiled at memorial services at Wesley Hospital in June.

Dr. Clarence T. Roome has removed to Santa Barbara, Calif., it is reported, to engage in the practice of medicine. Dr. Roome was health commissioner of Evanston for about fifteen years.

Dr. Harry E. Mock, assistant professor of surgery, Northwestern University Medical School, was awarded the honorary degree of doctor of science at the ninety-third annual commencement of Franklin College, Franklin, Ind.

Dr. Maurice L. Blatt, associate professor of pediatrics, University of Illinois College of Medicine, Chicago, addressed the Rock Island County Medical Society, Moline, June 14, on "Infant Feeding."

Dr. Charles Davison, emeritus professor of surgery, University of Illinois College of Medicine, Chicago, gave the commencement address at the University of South Dakota, Vermilion, June 6, on "Prevention of Disease."

Dr. James G. Carr was elected president for the ensuing year of the Alumni Association of Northwestern University Medical School, and Dr. George K. Fenn, secretary-treasurer.

Dr. Edwin J. Kehoe, Dayton, Ohio, has assumed the duties of superintendent and medical director of the county tuberculosis sanatorium at Pontiac.

Dr. Earl B. Miller has resigned as medical director of the Elm Grove Sanatorium, Bushnell, effective July 31, to become medical director of Hillcrest, the Adams County Sanatorium.

Dr. Ralph H. Kuhns, of the Children's Memorial Hospital, Chicago, spoke at a meeting of the Medical Round Table of Chicago July 12 on the subject of "Nutritional Problems in the Diseases of Children."

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### News Notes

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—A request from the Chicago Field Health Officers' Association to have the affiliation with the Chicago Medical Society changed to the present name of the organization, Chicago District Diagnosticians' Association, was disapproved at the June 14 meeting of the council of the Chicago Medical Society.

—The Illinois State Health Department was organized fifty years ago, July 1. During that period the life expectancy of the average child born in the state has increased at least fourteen years, according to the editor of *Illinois Health News*, and the expenditures for public health work in Illinois have increased from about \$10,000 to \$500,000 a year. Another great change in the half century has been the increase in heart disease, which now is ahead of tuberculosis in the mortality column, whereas fifty years ago it was fourth or fifth.

—The president of the board of directors of the Washington Park Hospital writes that the staff and the board of directors of that institu-

tion have undergone reorganization, and that the name will be changed to the Washington Park Community Hospital as soon as the necessary legal steps can be effected. Among the directors now are Prof. Anton J. Carlson, Ph. D., University of Chicago, and Dr. Arthur C. Klutgen; the other members of the board of directors are business men. Dr. Francis P. Hammond has been made president of the staff and chief of the surgical division, and Dr. Roy R. Jamieson, chairman of the medical section of the staff.

—Thirty-three unlicensed cultists of Chicago were fined in Judge Hamlin's municipal court, July 8, on charges of practicing without a license. Many of the cases had been pending since last October. Fourteen chiropractors were fined \$500 each. Nineteen naprapaths received fines of \$100 each.

—The recently elected officers of the Chicago Tuberculosis Society are Dr. Walter H. Watterson, president; Dr. Edwin B. Tuteur, vice-president, and Dr. Samuel A. Levinson, secretary-treasurer. There will be no meetings of the society until October.

—The Chicago Medical Society, since July 1, has connected its switch board with the Doctors' Private Wire Service, 208 West Washington Street. At the close of the day the society notifies this service to take the calls for nurses, and they are given a list of available graduate, undergraduate and practical nurses. Their secretaries are on duty at all hours, so that when a nurse is needed it is only necessary to phone in the usual way. This arrangement makes unnecessary the employment of evening and night attendants at the society's office.

—A new laboratory for diagnosis was opened in the Illinois Research Hospital Building, 1817 West Polk Street, July 18, under the direct supervision of the state health department. Dr. Lloyd Arnold, professor of bacteriology and preventive medicine, University of Illinois College of Medicine, will be in charge. The laboratory services, it is reported, will be free to physicians and other citizens of the state. Several rooms in the basement of the research hospital have been set aside for this work. There is a full-time staff of bacteriologists, serologists and chemists.

—Belroi in Gloucester County, Virginia, where Dr. Walter Reed, conqueror of yellow fever, was born, will be turned into a national shrine to



the distinguished surgeon by Virginia Medical Society, which recently began the work of rebuilding the structure.

—The twenty-ninth annual convention of the American Hospital Association will be held in Minneapolis, Minn., October 10-14, 1927. The exhibit of last year was exceeded in size by only the Automobile Show and the Railway Supply Manufacturers' Association exhibit held in conjunction with the American Railway Association—both of which are commercial exhibits.

—The Rochester Committee has prepared an excellent plan. It will send two representatives to Chicago to board the special train here. These committee representatives will ask each delegate to state what phase of the many Rochester activities he or she would find most interesting and profitable. Each delegate will then be given some distinguished mark—perhaps a colored button—indicating that choice. When the special train arrives in Rochester the delegates will be greeted by the Reception Committee divided into sections, each section wearing some mark of identification—let us say a colored button. For example, the Dietetic Section will wear perhaps a green button, and the group interested in dietetics, all wearing green buttons, will likely go to the Kahler Corporation and other phases of that particular work. Possibly a Grey Button Group will visit operating room, et cetera.

The hospitable Rochester Committee has already planned to serve luncheons to 650 guests. St. Mary's Hospital will play hostess to 200; Kahler will entertain 200; the State Hospital will serve 200, and the Rochester Diet Kitchen will care for 50. After luncheon all groups will assemble, when the two Mayo brothers will speak to the delegates on a program which will include other interesting speakers.

It is urged that all delegates who wish to take advantage of this highly interesting and profitable stop-over privilege will immediately get in touch with their local chairman, so that they will be sure to take the special train.

## Deaths

WILLIAM J. BLEWETT, Chicago; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1890; member of the Illinois State Medical Society; aged 68; died, July 8, at the Oak Park (Ill.) Hospital, of heart disease.

EDMOND DE WITT CONVERSE, Chicago; Chicago Medical College, 1874; Medical Department of Columbia College, New York, 1875; member of the Illinois State Medical Society; aged 74; died, in June, of mitral stenosis, chronic myocarditis and chronic nephritis.

EUGENIA MARGARET CULVER, Glencoe, Ill.; Illinois Medical College, Chicago, 1901; aged 59; died, July 17, at a hospital in Evanston, of heart disease.

HUBERT FAIRLEIGH DUNN, Chicago; University of Munich, Germany, 1914; aged 39; died, July 4, of acute appendicitis.

WILLIAM OTTERBEIN KROHN, Chicago; Northwestern University Medical School, Chicago, 1905; a Fellow, A. M. A.; formerly head of the department of philosophy, psychology and ethics, Adelbert College and Cleveland College for Women, Western Reserve University, Cleveland; assistant professor of psychology and pedagogy, University of Illinois, and professor of psychiatry, Loyola University School of Medicine, Chicago; delegate to the American Medical Association in 1918; psychologist to the Eastern Hospital for Insane, Kankakee, Ill., 1897-1899; specialized in neurology and psychiatry; served during the World War; author of "In Borneo Jungles" and other books, and co-author of "Insanity and Law"; aged 59; died, July 17, at the West Suburban Hospital, Oak Park, Ill., of hypernephroma with metastases in the lungs and brain.

GEORGE ALLEN LIGHTLE, Ashland, Ill.; College of Physicians and Surgeons, Keokuk, 1896; member of the Illinois State Medical Society; aged 57; died, June 6, at St. John's Hospital, Springfield, of intestinal obstruction following a cholecystectomy.

HENRY S. LLEWELLYN, La Grange, Ill.; Hahnemann Medical College and Hospital, Chicago, 1892; Chicago Homeopathic College, 1893; aged 68; died suddenly, June 21, of heart disease.

DANIEL LYONS, Ashland, Ill.; American Medical College, St. Louis, 1883; aged 79; died, May 26, of carcinoma of the nose.

JOHN ROSEMAN MARSHALL, Sheffield, Ill.; Rush Medical College, Chicago, 1896; a Fellow, A. M. A.; formerly member of the school board and board of health; on the staff of the Julia Rackley Perry Memorial Hospital, Princeton, Ill.; aged 55; died, June 23, at the Presbyterian Hospital, Chicago, of cysto-urethritis, pyelonephritis and pyemia.

THOMAS M. McILVAINE, Peoria, Ill.; Rush Medical College, Chicago, 1881; for many years a member of the school board; aged 73; died, May 17, at the Proctor Hospital, of pneumonia.

NATHAN W. MELTON, Wayne City, Ill.; American Medical College, St. Louis, 1883; aged 85; died, June 17, of cerebral hemorrhage.

ADOLPH HANS OLSEN, Oak Park, Ill. (licensed Illinois, 1898); aged 57; died, May 15.

FREDERIC F. SEVILLE, Chicago; University of Illinois College of Medicine, Chicago, 1895; a Fellow, A. M. A.; aged 60; died, June 4, of lobar pneumonia.

GEORGE F. SLATER, Chicago; Fort Wayne (Ind.) College of Medicine, 1896; aged 52; died, June 19.

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# Illinois Medical Journal

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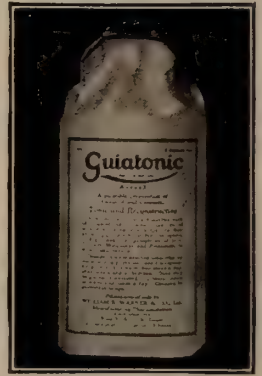
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# ILLINOIS MEDICAL JOURNAL

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## Editorial

### THE AUTOMOBILE MORE DEADLY THAN WAR

Automobile deaths in Chicago and Cook County for the first eight months of the year 1927 was 630, breaking all previous records. The national automobile chamber of commerce says that during the last eight years enough men, women and children have been killed to populate a city the size of Nashville, Tennessee, and that in this period more deaths have been brought about by the automobile than was the total mortality list in the American forces during the world war. Between January 1, 1919, and January 1, 1927, 137,017 persons were killed in this country by automobiles, while the total deaths in our army during the world war amounted to 120,050. In the eight years mentioned 3,500,000 persons were injured in automobile accidents, and 26 per cent. of the killed and injured were children under the age of 15 years. In the year 1926 it is estimated that 23,000 persons were killed by automobiles, an increase of 1,000 over the previous year. Department of Commerce figures that fatalities in seventy-seven of the largest cities during the four weeks ending July 16, 1927, show a 7 per cent. increase over last year.

It is only when the public is confronted with statistics on the huge fatality toll of the automobile that there seems to be any disposition to stop and think. Unfortunately, however, these statistics, startling as they are, are quickly forgotten and the full effect of their significance is invariably lost.

Our country is in a state of hysteria over the destruction of life during the world war. Pacifists are flooding the country with propaganda hoping to prevent future wars, yet how little attention has been paid to the approximately 150,000 deaths caused by automobiles since the



beginning of 1919. In commenting upon this feature of the present day indifference of the public regarding automobile deaths and accidents the *New York Evening World* comments as follows: "Killing by automobile has come to be privileged." According to the same paper:

"If in the last six months 514 people had been murdered in this city, it would be conceded that society was in a state of collapse. If 514 people had been killed by subways, the entire country would be shocked at the record. If as many as 514 people had been killed by falling brick or timber where construction is in progress special legislation would be passed at once to meet the great peril. But since the 514 people killed in New York City during the last six months were killed by automobiles, we take it lightly as something to be expected."

According to the *Pittsburgh Post*, "this is a sad commentary on our state of civilization," and the *St. Louis Globe Democrat* says: "These grewsome figures should impress the individual driver with his responsibility at the wheel."

The lesson to be learned from a study of the total number of deaths is far reaching. The education of the public back to a degree of sanity in automobile driving and in other phases of our present every day life is a duty that rests upon the medical profession in a large degree. State and public officials generally are beginning to think out ways and means to lessen the unreasonable toll from traffic war. The best minds the world over are studying the problem with unflagging intensity, but nothing can be accomplished without the close co-operation of the individual motorist and here enters the pathetic feature of the situation. The individual co-operation is lacking.

Even now, with an ever growing casualty list, no concerted effort is being made to clear the streets and highways of the incompetent, the careless and the irresponsible automobile driver. In Illinois and in fact in most of the states any person, no matter how stupid, can procure a license to drive an automobile and be on his way armed with an apparatus the potentialities of which are frightful to contemplate.

Until there is a rigid tightening up all along the line, first in the granting of a license to drive an automobile; second, in checking up as

to responsibility, both financial and moral, of the applicant, and thirdly, a strict and unyielding supervision over the manner in which the licensed driver runs his car, with immediate and permanent revocation in case he abuses his privilege, and lastly, the universal installation of governors on all cars which will limit the maximum speed at which a car may travel—there will be no reduction in the appalling yearly toll of the automobile.

It is time that the various states adopt stringent measures to stop the annual snuffing out of 25,000 lives and the maiming of three-quarters of a million people through automobile accidents.

---

#### IN ILLINOIS ALCOHOL FATALITIES INCREASE 500 PER CENT SINCE 1920

Mortality statistics made public by the director of the State Department of Health show that mortality in Illinois due to alcoholism has increased more than five hundred per cent since 1920.

Death due to alcoholism jumped from 47 in 1920 to 305 in 1925, while fatalities charged against cirrhosis of the liver rose from 565 to 705 during the same period.

A big increase since 1918. "In 1918, the last year before National Prohibition regulations went into effect, there were 116 deaths from alcoholism in Illinois and 690 from cirrhosis of the liver. For 1919 the mortality figures for these two disorders were 96 and 635, respectively; and for 1920 there were 47 and 565, the lowest point on record."

"Beginning with 1921, the mortality from wood alcoholism and cirrhosis of the liver has demonstrated a strong upward tendency, each year with the exception of 1923."

"Apparently alcoholic fatalities follow much faster upon the indulgence of appetite now than formerly. Drunkenness seems to be much less than during the saloon days and many of the old time Keeley cure institutions have been abandoned for lack of patients. This suggests that the wares of bootleggers are costing more than the buyers bargain for."

"The decline of mortality immediately after the Volstead law went into effect and the subsequent rise in fatality from that cause follows

closely the ways that mark the fall of the bartender and the rise of the bootlegger."

"Besides fatal termination the kind of stuff offered by bootleggers often causes serious and permanent disorder of the eyes not infrequently ending in blindness. No statistics are available on this condition, however."

"Numerous analyses of bootleg beverage have uniformly shown the presence of wood alcohol."

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### WOMAN'S AUXILIARY ILLINOIS STATE MEDICAL SOCIETY

The primary function of the Woman's Auxiliary, Illinois State Medical Society, is to assist in establishing a closer feeling and a better understanding between the medical profession and the general public.

Through their clubs and societies women of physicians' families can have wholesome and educative effect upon the public for the aims and ideals of the medical profession.

Further through this auxiliary leverage can be brought to bear to secure legislation that will be beneficial to the public welfare and against the handicapping laws now being urged.

This auxiliary acts only upon the suggestion or with the approval of the Illinois State Medical Society.

It is desired to establish county units. It is the earnest hope of the primary officers that the officers of each county medical society will see to organization in their respective counties.

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### WIVES OF PHYSICIANS URGED TO BATTLE COMMUNISM

Physicians' wives are urged to aid in combating the campaign among American youth now being waged by fosterers of communism. The Daughters of the American Revolution back this fight.

Mrs. William Sherman Walker discussed the matter with physicians' wives during the recent meeting in Washington of the A. M. A.

The talk was made at a reception given by the Woman's Auxiliary of the association for Mrs. Wendell E. Phillips, wife of the retiring president of the A. M. A., and Mrs. Jabez N. Jackson, wife of the new president of the association. Addresses were given by Mrs. Albert Brosseau, President General of the Daughters of American Revolution; Mrs. F. P. Gengenbach, of Colorado, retiring president of the auxiliary, and Mrs. John O. McReynolds, of Texas, who was installed as president of the auxiliary.

Mrs. Allen H. Bunce, of Atlanta, was elected president for next year. Mrs. George H. Hoxie, of Missouri, was elected first vice-president; Mrs. Thomas A. Groover, of Washington, second vice-president; Mrs. F. A. Long of Nebraska, third vice-president; Mrs. D. W. Parker, of New Hampshire, fourth vice-president; Mrs. Willard Bartlett, of Missouri, parliamentarian, and Mrs. Irvin Abel, of Kentucky, treasurer.

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### HEALTH CENTERS, FREE CLINICS AND LAY DIAGNOSING AND PARTIAL PRACTICE OF MEDICINE ONE OF THE INCREASING DANGERS TO PUBLIC HEALTH

One of the most poisonous fungi emanating from attempted lay practice or dictation of the practice of medicine is the ubiquitous and prolific "health center" and "free clinic" system. Probably more harm is done at these supposed Delphic oracles of healing than by all the old time "Yarb Doctors" and "Medicine Men" put together. As it is at present managed and organized, the bulk of this work is like the false front structures in a boom town. At first glance these edifices appear to have a two-story construction. Examination shows that the front wall has merely been run up the height of a sec-



ond story with much the same assumption of dignity as appertains to a waiter wearing a "dickey" with his evening clothes.

On the same principle much of the work, if not all, that is accomplished at these "free clinics" and "health centers" is just about equally pretentious bombast. The service given is more often promise than performance.

Especially is this true of those clinics dealing with juveniles. The child is taken to the welfare clinic, examined and given advice. Rarely does the follow-up work see that this advice is taken, and very frequently, even in the case of a "follow-up," objections on the part of parents, and legally sustained objections at that, cause absolute disregard of such advice. Again where there is no "follow-up" only too often the advice never gets out of the clinic.

Cheering light on this situation comes out of Montana. There members of the Yellowstone Valley Medical Society confronted with this universal problem have been solving it in their own way and with something of satisfaction. Perhaps one cannot do better than quote from the bulletin of "Progress of the Medical Association of Montana." E. G. Balsam, M. D., under the title "Clinics," in a recent issue says:

"The members of the Yellowstone Valley Medical Society have always donated services examining children at the clinics arranged by the various welfare organizations. From the experience gained in such activities, they have made the following deductions—that the parents are very slow to avail themselves of the advice given, hence the children derive little benefit from all the work done at the clinics; after the advice is given by the doctor at the clinic the child may be taken to the family physician who may not have the same idea for the child, which gives rise to confusion in the minds of the parents and the child. For these reasons the members believe that, instead of having clinics for the examination of children, it is best to have the children taken to the family physician who will gladly do the examining and fill in the blanks required by the organizations.

"The organizations can have their meetings just the same and try to educate the parents and children in the value of periodic medical exam-

inations of the apparently healthy by their family physicians and we believe do more good than is at present accomplished. The school or county nurse can also devote her time to the same end. There is nothing in a clinic or any other arrangement that will take the place of the active and friendly interest combined with the knowledge and skill of a family physician for the members of a family who have confidence and trust in him. That is individual service contrasted to the wholesale hurried hurrah so frequently encountered at clinics."

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### HEALTH CLINICS BY DRUGLESS HEALERS

One views with a quizzical smile mixed with alarm the following report of a "Health Center Show" in Los Angeles, Calif. The clipping as it came to this office reads:

The "Health Chautauqua Association" recently put on a "show" at the Philharmonic Auditorium, Los Angeles, and on the first page of its program were the names of the active members of the "Drugless Physicians of Southern California;" these individuals, it is reported, comprise the Health Chautauqua Association. McArthur Timmons is a layman employed on a salary to promote two "shows" a year, and his address, 1000 West Seventh Street, is the address of the "Health Center of Los Angeles." The "Health Center of Los Angeles" has several departments; a licensed chiropractor, J. Bruce Clark, was in charge of the "treatments;" the "Health Food Products Co." is managed by Maurice Goldman; "The Corrective Eating Cafeteria," managed by M. M. Day; "Corrective Exercises, Breathing, Physical Culture, etc." by Prof. Paul C. Bragg; "Massage," by Archie Jordan, and "Chiropractic Treatments, Baths, etc." by Emiel A. Wiseman, D. C. One-half of each department is owned by Fred S. Hirsch, who is listed as "managing director." Frank McCoy, drugless practitioner; Wesley Barrett, D. O.; Philip M. Lovell, drugless practitioner; R. Stone, D. D. S., and others were said to lecture two days a week. The "health center" places a great deal of stress, it is reported, on "Arnold Ehret's Mucusless Diet System" and the "Bio-Bloodwash Marathon Bath."

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Seids, J. W., M. D., Reliance Bldg., Moline.**ST. CLAIR COUNTY**Boyle, W. W., M. D., Murphy Bldg., East St. Louis.  
Otrich, G. S., M. D., Commercial Bldg., Belleville.  
Skaggs, Charles S., M. D., 513 Missouri Ave., East St. Louis.  
Belleville Branch, St. Clair County Medical Society, Belleville.

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**SALINE COUNTY**

Hicks, John, M. D., Eldorado.

**SANGAMON COUNTY**Deal, Don, M. D., First Nat'l Bank Bldg., Springfield.  
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Neal, John R., M. D., 609 Walnut St., Springfield.  
Nelson, C. S., M. D., 804 Park Ave., Springfield.  
Owen, Milton G., M. D., 1621 S. 6th St., Springfield.  
Palmer, Geo. Thomas, M. D., Leland Office Bldg., Springfield.

Taylor, L. C., M. D., Springfield.

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Clarke, Geo. W., M. D., Roseville.  
Kampen, H. L., M. D., 108 E. 1st Ave., Monmouth.  
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**GEORGIA**

Medical Association of Georgia, 139 Forrest Ave. N. E., Atlanta.

**IDAHO**

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Iowa State Medical Society Library, Historical Bldg., Des Moines.

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Boston Medical Library, 8 Fenway, Boston.

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MISSOURI

St. Louis Medical Society Library, 3525 Pine St., St. Louis.

NEW JERSEY

Cummins, G. Wyckoff, M. D., Belvidere.

NEW YORK

Davis & Geck, Duffield St., Brooklyn. Library of New York Academy, 2 W. 103d St., New York City.

NORTH DAKOTA

Grassick, James, M. D., Grand Forks.

OHIO

Cleveland Medical Library Assn., 11000 Euclid Ave., Cleveland. Fischer, Martin H., M. D., College of Medicine, Eden Ave., Cincinnati.

PENNSYLVANIA

Luzerne County Medical Library, 130 S. Franklin St., Wilkes-Barre.

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Davis, Carl Henry, M. D., 141 Wisconsin St., Milwaukee.

FROM CANADA

Ahern, Geo., M. D., Laval University, Quebec.

Volume two will follow soon. Orders should be sent to the Committee on Medical History, Illinois State Medical Society. For convenience the following order blank and data are printed:

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PHYSICIANS IN SMALL TOWN WILL  
PRESENT HISTORY TO LIBRARY

A rather unique method of purchasing the History of Medical Practice in Illinois has just come to our notice. The four physicians of Barry, Illinois, have joined together to purchase a volume. When they are through reading it, they expect to donate the work to their public library. The four physicians of that city are Doctors W. W. Kuntz, R. H. Main, T. D. Taylor and W. G. Reynolds.

By presenting the History to the library, it will be preserved for future reference so that the citizens of that community will have the opportunity to get much historical data not available otherwise in small libraries.

We are pleased to report this plan, as it may be of value to other physicians in small cities where a similar plan might be adopted so that the people of their community may have access to this valuable work.

SOCIAL WORKERS, ECONOMISTS, FOUNDATION DIRECTORS, NEAR DOCTORS,  
AND A FEW MEDICAL MEN TO  
PASS ON EFFICIENCY OF MEDICAL SERVICE IN THE  
UNITED STATES

THE GROUP DISCUSSED PLANS THAT MAY  
REVOLUTIONIZE AMERICAN MEDICINE

Plans have been formulated in May at Washington, D. C., to survey the entire field of medical practice in the United States. While views on the subject were intended to be confidential it is apparent that the object is to determine by investigation whether at present medical practice is carried on economically, and is adequately and effectively administered.

Call for this conference was made as a matter of convenience while the American Medical Association was in session and *was entirely outside of the program of the A. M. A.*

As we interpret it, the intention of the organization is to find out whether the prevention and cure of disease are conducted on lines that are thoroughly sound, or whether in any important direction there is need for fundamental changes of method. The program launched by this conference may lead to revolutionary developments.

Two sessions of the organization were held. About fifty individuals were present. Meetings were at the offices of the American Red Cross Society.

The following were among those present:

Dr. Winford H. Smith, director of Johns Hopkins Hospital, Baltimore; Dr. Charles E. A. Winslow, professor of public health at the Yale Medical School; Dr. H. H. Moore, educational director, United States Public Health Service, Washington; Dr. Louis I. Harris, Health Commissioner of New York City; John A. Kingsbury, secretary of the Milbank Memorial Fund, New York; Dr. John Shelton Horsley, surgeon, of Richmond, Va.; Walton H. Hamilton, of the Brookings School of Economics, Washington; Dr. E. L. Bishop, State Health Commissioner of Tennessee; Dr. James B. Bruce, director of the Department of Internal Medicine at the University of Michigan; George E. Barnett, professor of statistics, Johns Hopkins University; Richard M. Broadley, of the Thompson Foundation, Boston; Surgeon General Hugh S. Cumming, of the United States Public Health Service; Dr. Haven Emerson, professor of public health administration, Columbia University; Miss Blanche M. Haines, of the Children's Bureau, Department of Labor, Washington; Dr. Shelby M. Harrison, vice general director of the Russell Sage Foundation; Dr. A. T. McCormack, State Health Commissioner of Kentucky; W. F. Willoughby, director Institute for Government Research, Washington; Dr. M. C. Winternitz, dean of Yale Medical School; Dr. Eugene R. Whitmore, professor of parasitology and pathology, Georgetown University.

Dr. David Reisman, professor of clinical medicine, University of Pennsylvania; Dr. Homer N. Calver, executive secretary of American Public Health Association; Dr. Louis I. Dublin, Metropolitan Life Insurance Company; Miss Hildegard Kneeland, Bureau of Home Economics, Washington; Dr. S. W. Welch, State Health Commissioner of Alabama; James A. Tobey, Borden Milk Company; Dr. Leo Wolman, of the National Bureau of Economic Research, New York; Edward A. Woods, of the Equitable Life Assurance Society; Dr. C. C. Pierce, director of Western division, United States Public Health Service, and Dr. Waller S. Leathers, Vanderbilt University.

The Washington conferences considered the effects of the practice of medicine, as now conducted in the United States. This subject is as broad as the field of medical science, is almost limitless in its scope, and naturally would include the influence on public health of agencies such as the Rockefeller and Russell Sage foundations, and of similar institutions functioning under enormous endowments, and also the present day problem of hospitalization, and of whether hospitals should show state ownership maintenance and operation on an increasing ratio.

In the contemplated survey, the vital issue of the nursing system is to be investigated. Under the proposed plan a thorough investigation is to be made of the roles at present being played in the realm of public health by colleges and universities, private medical schools, dispensaries, and industrial organizations which employ doctors and nurses for the care of their own staffs. The part played by individual physicians, surgeons and specialists of all kinds will of course come in for penetrating examination.

In the completion of the organization a committee of five was named and vested with authority to select thirteen additional members to consist of representatives of colleges, universities, and foundations in the hope that the latter would furnish the necessary sinews to carry on. This would amount to approximately forty thousand dollars for the first year and a larger sum for succeeding years. It was estimated that it would take five years to make the survey. The five members selected to start the machinery going are Dr. Barker of Johns Hopkins; Prof. Winslow of Yale; Dr. Smith of Johns Hopkins Hospital; Dr. Moore of United States Public Health Service, and Michel Davis, representing medical foundation of New York.

#### CHIROPRACTORS CREATE A DESPERATE SITUATION FOR OHIO DOCTORS

LEGAL ACTION PROMISED AGAINST OFFICERS OF OHIO STATE MEDICAL ASSOCIATION.

CHIROPRACTORS TO HAVE STATE WIDE REFERENDUM

We are in receipt from the secretary of the Ohio Medical Association Bulletin No. 9 which indicates that things look rather desperate for the medical fraternity in Ohio. The bulletin



shows conclusively that the medical men of Ohio have not attempted to organize as carefully as they should. Below is an abstract of the Bulletin.

#### CHIROPRACTIC ACTIVITIES AND DEVELOPMENTS ON INITIATED BILL TO DATE

There have been certified to date to the Secretary of State's office reports from 37 county boards of elections on the chiropractic initiative and supplementary petitions.

The total number of signatures certified from these 37 counties is now 70,608 and a total of only 2,355 have been rejected by those boards of elections as "insufficient" following court action on those petitions.

As only approximately 120,000 signatures are required in the entire state on the initiative and supplementary petitions to secure a vote on this issue, a continuation of the present average will show sufficient signatures for that purpose.

Reference was made in a previous bulletin (Special Bulletin 5, of July 6) the action of the Putnam County Medical Society in sending a communication to the signers of the chiropractic petitions in that county, in reference to the proposed bill. According to information coming to this office, an unlicensed chiropractor has sworn out a warrant for the arrest of the officers of that County Medical Society. The following paragraphs are quoted from an Associated Press on this subject:

"Ben L. Miles, Westerville, representing the chiropractors, filed the affidavits for arrest of the medical trio. His warrant charged that the State Medical Association through officers whose names were signed to a circular only as a committee, sent out a circular designed to adversely affect chiropractors.

"Miles declared today similar action will be instituted against the Ohio Medical Association officers in every county in the state."

This demonstrates the extremes to which the chiropractors intend to proceed in their misleading propaganda on behalf of their initiated bill. The warrant against the officers of the Putnam County Medical Society will undoubtedly be dismissed, it constitutes an unjustified attack upon the medical profession.

According to further word coming to this office, a series of district meetings have been started by the chiropractors in which their spokesmen have declared that any activities to defeat their propo-

posal will be met by a similar activity. They have also planned to raise a campaign fund by an assessment of \$300.00 against every chiropractor in the State. They set as a minimum for their campaign fund in each county, the sum of \$2500.00. According to our best information, those who are contributing to the chiropractic cause, are mostly "unlicensed" chiropractors who may consider their contribution as a "quid pro quo" in return for an expected license to be issued to them under the chiropractic board which they hope to have created under the proposed initiated bill.

One county medical society has already started the creation of an educational fund to meet the chiropractic issue and other similar problems. A nominal assessment of \$10.00 per member is contemplated for printing, posters, publicity and other activities as suggested in the "Proposed Plan" which accompanied Bulletin 1 and Bulletin 8.

Within the past few days, considerable misleading chiropractic propaganda has appeared in some of the newspapers, which indicates the importance of "educating" newspaper publishers and editors as suggested in previous bulletins and on the facts as summarized in the last and preceding bulletins.

The Policy Committee of our State Society has been constantly busy with conferences and plans in cooperation with other allied groups in opposition to the initiated bill. Your comments, suggestions and information will be appreciated.

#### VOLUNTEER HEALTH AGENCIES AND MEDICAL ORGANIZATIONS SHOULD PROMOTE A BETTER WORKING ARRANGEMENT

The *New York State Journal of Medicine* has the following to offer in the way of promoting closer relations between medical organizations and voluntary health agencies:

It is fully recognized that County Medical Societies and county and other local voluntary health agencies are fully autonomous, and that no direction nor control over them can be exercised by state-wide organizations. In order, however, that the results indicated above, as being desirable, may be as fully secured as possible, it is believed that certain suggestions may appropriately be submitted for consideration to local health agencies and medical societies, action on their part of course being strictly optional.

It is believed that effective relations in the public

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interest will be promoted if voluntary health agencies on their part will include the following steps in their program:

(a) Invite the County Medical Society to designate a certain number of its members, say two, to become members ex-officio of its board of directors or executive committee, if there be one.

(b) Lay its annual program of activities before the County Medical Society for information and suggestions.

(c) Appoint a special committee to confer with a similar special committee appointed by the County Medical Society about matters that come up from time to time in which both groups are mutually interested.

(d) Report to the parent body of the voluntary health agency any matter as to which an accord has not been reached with the County Medical Society, in the hope that through conference between the parent body of the voluntary health agency and the State Medical Society any such matter may be negotiated and adjusted to the mutual satisfaction of all concerned.

(e) Conduct at least one open meeting each year to which the members of the County Medical Society are specially invited.

It is believed that these desirable results will also be furthered if the County Medical Society will include the following in its program:

(a) Accept the invitation from the voluntary health agency to designate certain of its members to serve as members ex-officio on the board of directors or executive committee of the voluntary health agency.

(b) Study and consider any program of activities that may be referred to it by the voluntary health agency for information and suggestions; and, if such program is approved, make a public statement to that effect, and otherwise support the program so approved.

(c) Appoint a special committee on public relations to confer from time to time with similar committees appointed by the voluntary health agency on matters of mutual interest to both agencies.

(d) Report to the State Medical Society any matter as to which an accord has not been reached with the voluntary health agency, in the hope that through conference between the State Medical Society and the parent body of the voluntary health agency any such matter may be negotiated and adjusted to the mutual satisfaction of all concerned.

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#### THE MEDICAL VETERANS UNITE WITH THE MILITARY SURGEONS. MED- ICAL MEMBERS OF DRAFT BOARDS ARE NOW ELIGIBLE

That the union is desirable for reasons well stated by General M. W. Ireland, Surgeon General of the Army, in an address delivered in Philadelphia at the annual meeting of the Association of Military Surgeons in October, 1926. He said:

Another organization having a large and representative membership whose aims and purposes are identical with ours, which should be admitted to the family on an equal footing, is the Medical Veterans of the World War, now numbering some 2,000 members. Let me repeat Article II of the Constitution (which states the objects) of that Society:

"The dominant purpose of this association shall be patriotic service. The objects of this association shall be: to prepare and preserve historical data concerning the medical history of the war; to cement the bonds of friendship formed in the service; to perpetuate the memory of our medical comrades who made the supreme sacrifice in this war; to provide opportunity for social intercourse and mutual improvement among its members; to do all in our power to make effective in civil life the medical lessons the war, both for the betterment of the public health and in order that preparedness of the medical profession for possible war may be assured."

It is my firm conviction that mutual benefits and much good would be derived by having the M. V. W. W. united with The Association of Military Surgeons. The Medical Veterans could effect this affiliation without in any way impairing the social, historical, memorial aims or usefulness of the society. Once in The Association there could be created a Section specifically for the assembly of the Medical Veterans under their own chairman.

Your committee believes that this union is especially advisable to accomplish the first and last of the purposes of our organization as quoted by General Ireland from our Constitution, namely, to prepare and preserve historical data concerning the medical history of the war, . . . and in order that preparedness of the medical profession for possible war may be assured.

Your committee has, therefore, under the authority conferred upon it ratified the union of the two organizations upon the following basis:

1. All members of the Medical Veterans of the World War are eligible for membership in The Association of Military Surgeons upon payment of dues to the latter, and all members of the former in good standing become members of the latter without the payment of additional dues until July 1, 1928, and shall be enrolled as such and receive the magazine of The Association.



Thereafter the annual dues of The Association (\$3.00), which includes the magazine, shall be the only dues charged them.

2. A section called the Medical Veterans of the World War Section shall be created in The Association which shall include all members of the Medical Veterans of the World War who are members of The Association. This section shall have such meetings, banquets, etc., as may be determined upon by the president and secretary of the Section in accordance with Article IX of the Constitution of The Association.

3. All records, rolls, and funds of the Medical Veterans to be turned over by the Secretary to the Secretary of The Association of Military Surgeons.

4. The following Section officers have been elected for the year beginning July 1, 1927, at which date these arrangements will go into effect:

President: Colonel John O. McReynolds, Med. Res., Dallas, Texas.

Secretary: Colonel Arthur T. McCormack, Med. Res., Louisville, Kentucky.

A. T. McCORMACK

Secretary

HUBERT WORK

President

These conditions are in agreement with the action of The Association with reference to this union taken at their last annual meeting. It will be noted that all members of the Medical Veterans in good standing became members of The Association on July 1, 1927, but will not be called upon to pay dues for a year thereafter. This was arranged by a payment from the funds of the Medical Veterans to the Military Surgeons of two dollars for each member of the former in good standing, not already a member of the latter, so as to cover the cost of magazine for the first year.

It is a great gain to have brought together in one body those of the medical profession who are interested in medical preparedness and the study of the specialty of military medicine, and to have available for all of them the magazine as an organ of expression and a repository for the literature of our specialty. The section of medical veterans of the World War will have as its *raison d'être* to cultivation of the bonds of friendship and comradeship which grew out of the associations of that great episode. The dinner of the medical veterans at the annual meeting of the A. M. A. is an event which will grow in importance and

in the pleasure that the recurring reunion will bring to us.

## EDUCATIONAL COMMITTEE REPORTS PROGRESS

### WORK ACCOMPLISHED FROM MAY 15 TO AUGUST 15

- 616 Regular newspaper articles have been released for publication over signature of local county medical societies.
- 125 Special news articles released.
- 44 Health articles written and censored.
- 56 Speakers scheduled to give health talks before lay groups.
- 18 Radio talks arranged for Stations WLS and WGN.

DR. E. W. FIEGENBAUM

THE CITIZEN

He was a good citizen. This simple, truthful sentence, as to him, was justified in full measure throughout his entire life, but it falls far short of giving a complete vision of the service he gave.

His was a life so full of activity and worthwhile deeds that no sentence or even a complete biography could reflect all the good in his life. His hand, heart and mind were ever ready not only to help but to lead in every activity for the betterment of his fellowmen.

He realized in early life that thorough preparation is necessary to fit man to successfully execute the program of human life; he therefore was a real student. He further realized that continual preparation is necessary until the curtain has been drawn at the close of the last number on the program.

He chose a great profession and though a physician and surgeon for more than half a century he kept up to date with every advance in the science and research of modern times.

His practice brought him in close touch with every phase of human life, he knew the weakness and frailties of man; he knew the essentials of good citizenship; he was pre-eminently a splendid example in himself. But this was not the full measure of his worth. If there is one word in the English language that would express his predominant virtue and the virtue which he continually sought to encourage in oth-

ers it is "purity." His whole vitality was put into word and action in his fearless and persistent demand for a clean standard of morals. His stand on any question was clean and clear cut. He was guided in the affairs of life, not by the thought of personal gain, but by the right as he saw it.

As a citizen he was keenly interested in the welfare of his home community and in every business with which he was associated. He was an active factor and his judgment was well balanced and sound.

In his public speech he was forceful and convincing and in this he gave freely of his time and talent in inspiring addresses on helpful subjects.

He was a lover in his home, an exemplar in his church, a helper in the school, a factor in business, a peer in his profession, a prince with his associates, an honor to his community, to the state and the nation.

"He was a good citizen."

—Thos. Williamson.

#### IN MEMORIAM

Let us pause and rise in reverence to the memory of our late beloved Secretary, Dr. Edward W. Fiegenbaum, who died at his home in Edwardsville in the early morning of July 28, 1927.

In every essential that the word implies, Doctor Fiegenbaum was a man; a man to man, a man with men, a man with God—God's man. If all men were like him, we would need no asylums, no jails; there would be no discord, no back-biting, no blasphemy, no strife, no quarrel, no crime, no war, no curse.

How best to exempt from oblivion the services of his life, is the duty of us who survive. Though words may extoll to the sublime his many virtues, how ineffectual any thoughts we may now express be in comparison with the words of praise of him, then, can we best honor him now by doing those things he would wish us to do, were he here with us—Give the friendly smiles, extend the hearty handclasp, speak the words of cheer and encouragement, salute with a whole-soul greeting; and, as he so much enjoyed quoting Edgar A. Guest, would doubtless like to say: "If with pleasure you are viewing any work a man is doing,

And you like him or you love him—tell him now;

More than fame and more than money is the comment, kind and sunny,

And the hearty, warm approval of a friend;

For it gives the life a savor; and it makes you stronger, braver;

And it gives you heart and spirit to the end."

In the urge of life, are we not too much inclined to apply our energies to material things? Should we not, to a greater degree, express, to each other those thoughts that awake the higher emotions and really make life worth living? Do we not too often wait till death comes before we speak those words which to every heart brings the spirit of happiness? 'Tis these things, I think, our departed brother would want us to do.

So then, our greatest tribute to his memory is to build monuments to the living—not of cold granite—but monuments of warm devotion to duty, of affection, of commendation, of encouragement, of hope for better things, of faith in the ultimate triumph of truths, of charity to all—that right is might; and of deeds of kindness and forbearance.

As to his death: "Wherefore, O judges, be of good cheer about death; and this of a truth, that no evil can happen to a good man, either in life or after death."

Doctor Fiegenbaum was a good man! We shall miss him!

—Geo. E. Wilkinson.

For several years Dr. Fiegenbaum was county physician and at various times he held the position of local representative of the State Board of Health and the State Board of Charities.

He was president of the Southern Illinois Medical Society in 1911 and in 1918 he was elected to the presidency of the Illinois State Medical Society. He was a member of the American Medical Association, Illinois State Medical Society, Tri State Medical Society, St. Louis Medical Society, Southern Illinois Medical Society and the Madison County Medical Society, serving the latter organization as its secretary for over twenty-one years.

He was a member of the Methodist Episcopal Church since his boyhood. Fraternally he was affiliated with the Independent Order of Odd Fellows and the Knights of Pythias.

Dr. Fiegenbaum took an active interest in



civic betterment and the upbuilding of the various industries and enterprises of the community. For many years he took special interest in the welfare and health of the school children, giving his services and talents freely for the betterment of the schools, and for some time he served as a member of the Board of Education.

For many years Dr. Fiegenbaum took an active part in work for the control of tuberculosis. He was secretary of the Madison County Antituberculosis Association since its inception. The fulfillment of the duties of this office required much time and detailed work. It was largely through the efforts of this organization that a campaign was launched for the erection of a county tuberculosis sanitarium in its inception and later Dr. Fiegenbaum took an active part in bringing this enterprise to fruition.

During the late unpleasantness, Dr. Fiegenbaum was a member of the Madison County Exemption Board, giving much of his time in discharging the trying and difficult duties of this position.

During the course of his long and useful career, Dr. Fiegenbaum served in an official capacity in various enterprises and in each and every instance performed the duties of the position in so efficient a manner that any one of which would have made him an outstanding figure in the community.

Organized medicine sustained a great loss in the death of Dr. Fiegenbaum. For many years he was actively interested in medical legislation and the upbuilding of medical organization. He accomplished much in this direction while serving in the capacities as president of the Southern Illinois Medical Society and later as president of the Illinois State Medical Society, and as a member of various committees in the state and national organizations. His interest and enthusiasm in organized medicine were prompted solely by the altruistic motive of benefitting the health and general welfare of the public through wise legislation.

Dr. Fiegenbaum was secretary of the Madison County Medical Society for nearly twenty-two years, and its members deeply feel his loss. He gave to this organization full measure of devotion through all these years. He was the leader in the upbuilding of this organization, success-

fully guiding it through many trials and vicissitudes and its present standing in the community and the state is due largely to his efforts in its behalf.

This publication, *The Madison County Doctor*, was founded by him in July, 1910, and he has edited it since its inception, all for the glory of the organization which he served so long and well.

It shall be the endeavor of this society to continue this publication in memory of him who gave to it his devotion and services in unstinted measure.

Dr. Fiegenbaum was a man of versatile talents and outstanding ability, thorough honesty and firm integrity and he was eminently successful in all undertakings in which he became interested.

—J. A. Hirsch, M. D., in *Madison County Doctor*.

---

### SUCCESSFUL PHYSICIAN GIVES "DO'S" AND "DONT'S" TO YOUNG PHYSICIANS

"My son—a physician, member of the noblest profession of them all, should, like Caesar's wife, be above suspicion and without reproach.

"To be successful and to do your part in keeping the profession on its high pedestal, you must not only be a competent practitioner—you must observe every law of medical ethics. I have practiced longer than you have lived. It is hard, I know, for a young men to accept pearls of wisdom from an older head; but may I in all brotherly spirit give you, my son, two lists of 'Do's' and 'Dont's'?"

"Put these where you can see them night and day, until they become part of your fibre. Good luck—and may God bless you!"

#### DO

Join your County Medical Society immediately.

Apply for membership in the A. M. A., because all physicians should support organized medicine.

Join some religious organization; medicine and religion should walk hand in hand.

Institute business methods in your office.

Treat the worthy poor without charge; but

collect at once any bills from those able to pay your fees.

Study each case; know just what you are treating and why you are treating it as you are.

When you can afford it, marry a helpmate—not a social climber, a nagger or a jealous woman.

Be on the job at all times. Remember that medicine is a jealous mistress.

Observe every tenet of medical ethics—treat your patients and conferees as you want to be treated.

Conduct yourself like a gentlemen at all times, remembering that a physician is at least several degrees above *hoi polloi*! Our is a dignified profession.

### DON'T

Do not join lodges merely in the hope of gaining practice.

Do not permit people to speak slightingly of medicine nor of the medical profession.

Do not be playing golf when you should be at your office. "A time for everything!"

Do not affiliate yourself with free clinics.

Do not permit folks to call you "doc" unless the clergy permit people to call them "Rev.!"

Do not attempt, even indirectly, to take patients away from any other physician.

Do not try to take all of a patient's money. Remember the adage—live, and let live.

Do not knock another physician; and do not listen to criticism by others.

Do not join a hospital staff unless you realize your time is of great value. Then join and go at it hard!

Do not split fees! Do not attempt diagnostic guesswork! Do not close your mind to progress! Do not get too firmly into routine.

"My son, if you will observe these precepts, you will live a long and comfortable life, do a great deal of good in the world and be a distinct credit to that noble profession to which you have sworn allegiance!"—Author Unknown.

### POOR INVESTMENT

I sent my boy to college,  
With a pat upon the back.  
I spent ten thousand dollars,  
And got a quarterback.

## Correspondence

### TELEPHONIC PRESCRIPTIONS FOR NARCOTIC DRUGS

535 N. Dearborn St., Chicago.

August 25, 1927.

*To the Editor:*

On my recent return to Chicago I found awaiting me your letter of August 5 relative to telephonic prescriptions for narcotic drugs. Your informant has apparently confused the issue and compounding of telephonic prescriptions for narcotic drugs with the proposed assumption by the Commissioner of Prohibition and the Secretary of the Treasury of the right to promulgate a regulation to govern the issue and compounding of such prescriptions. To the issue and compounding of telephonic prescriptions for narcotic drugs, under appropriate conditions, I have entered no objection. But I have been and am unwilling to concede to the Commissioner of Prohibition and to the Secretary of the Treasury the right to promulgate a regulation purporting to authorize the issue of such prescriptions and I have therefore expressed my objections to the assumption by them of any such right.

I realize that occasions arise when it is expedient—and I might say even necessary—to prescribe narcotic drugs by telephone. I realize that prescriptions are now given by telephone and duly filled. I have raised no objection to this practice. I have heard no discussion concerning the advisability of discontinuing it and have been a participant in no discussion in which the question was raised.

But since the Harrison Narcotic Act, as amended, forbids the filling of prescriptions, given orally, for narcotic drugs, whether by telephone or otherwise, I have declined to admit any right on the part of the Commissioner of Prohibition and of the Secretary of the Treasury to amend the act and to substitute for it a law of their own. Such a claim of authority was implied in a regulation proposed by the chief of the Narcotic Division of the Bureau of Prohibition and was conceded by various representatives of the drug trade present when the proposed regulation was discussed. My own view, however, was that if we conceded the right of the officers named to promulgate a regulation such as was proposed, not only without authority of law, but



purporting to amend the law itself, we thereby conceded their right to promulgate other regulations of like character, and that our last state would be worse than our first.

Moreover, such a regulation as was proposed would be a mere idle gesture by the officers promulgating it so far as the public and the courts are concerned. These officers are empowered to make only such regulations as may be needful for carrying the provisions of the act into effect. They are not empowered to make any regulations, modifying, supplementing, or repealing the act, or any part of it, and any regulations undertaking to accomplish any of these ends would be void and of no effect in so far as the public and the courts are concerned.

Of course, the promulgation by the Commissioner of Prohibition and the Secretary of the Treasury of a regulation purporting to legalize telephonic prescriptions for narcotic drugs would serve as notice to narcotic law enforcement officers not to prosecute physicians who issue telephonic prescriptions for narcotic drugs, nor pharmacists who compound such prescriptions. That, however, would be a very poor way of issuing such instructions to officers and employees of the Treasury Department as to the manner of the discharge of their duties. The proper way to accomplish that end, as I have pointed out to the chief of the Narcotic Division, is by the issue of instructions directly to such officers and employees to institute no prosecutions in such cases without first submitting the facts to the office of the chief of the Narcotic Division and obtaining express authority for prosecution.

It is true that the law does not expressly authorize the chief of the Narcotic Division, nor the Commissioner of Prohibition, nor the Secretary of the Treasury to determine which violations of the Harrison Narcotic Act shall be prosecuted and which shall not. Each of the officers named, with due regard to their respective relative ranks, has the inherent right and duty, however, to exercise such discretion. The exercise of such discretion is necessarily a part of the right and duty of every administrative officer who has not been supplied with an operating force large enough to enable him to execute and to enforce to the very letter every law assigned to him for enforcement, within the entire jurisdiction under his control. Any administra-

tive officer under such circumstances has to determine how to dispose of such forces as have been allotted to him in the manner that will accomplish the most effective enforcement possible of all the laws for the enforcement of which he is responsible, having in mind the purpose for which each of the laws was enacted. An administrative officer who devotes his time and energies and the time and energies of his men and of the courts to the prosecution of merely technical violations of law, when their time and energies might better be devoted to detecting and prosecuting substantial offenses thereby demonstrates his incompetence.

Even, however, if the Commissioner of Prohibition with the approval of the Secretary of the Treasury, could lawfully promulgate a regulation amending the Harrison Narcotic Act and authorizing the prescribing of narcotic drugs by telephone, the prescribing of such drugs in that manner would still be unlawful in Illinois and in many other states. Such prescribing would still be forbidden by state law. In Illinois, for instance, subsection 14 (a), section 66, chapter 91, Cahill's Revised Illinois Statutes, 1925, makes it unlawful for any person to sell, barter, exchange, distribute, or to give away any opium or coca leaves or any compound, manufacture, salt, derivative or preparation thereof, except in pursuance of a *written* prescription and requires this written prescription to be *signed* by the physician, dentist, or veterinarian by whom it was issued. No regulation issued by any federal or state officer can change this law; nothing short of an act of the Illinois legislature can do so.

The necessity that occasionally arises for issuing and for compounding telephonic prescriptions for narcotic drugs is, it seems, being met at the present time by the exercise of common sense and good judgment on the part of physicians and pharmacists and narcotic law enforcement officers. The continued exercise of such judgment and common sense by narcotic law enforcement officers can be insured and fortified if necessary by the issue of office instructions by the Commissioner of Prohibition to guide them in the discharge of their respective duties. If any necessity can be shown for the issue of such instructions, I believe it probable that the Commissioner of Prohibition will issue them. Under such circumstances, it seems to me that it would be unfortunate to bring the situation to the no-

tice of the public generally by covering it in official regulations that must have a wide circulation. The promulgation of such a regulation would be notice to the world that telephonic prescriptions for narcotic drugs were valid. Under such circumstances the narcotic peddler and the narcotic addict would be invited to telephone to one or more druggists, in the name of any physician whom they might select, asking that a stated quantity of narcotic drugs be dispensed and promising to file the necessary written prescription later. Any physician might thus readily become involved in a controversy with the pharmacist and the narcotic law enforcement officer; for he might have difficulty in proving the negative proposition, namely, that he had *not* telephoned for the narcotic drugs. When a physician's signature is forged to a written narcotic prescription, the narcotic prescription speaks for itself; a telephonic narcotic prescription could not do so.

Finally, in view of the fact that the law of the United States and the law of Illinois require prescriptions for narcotic drugs to be in writing, in view of the fact that the Commissioner of Prohibition and the Secretary of the Treasury have no authority whatsoever to change the law, and in view of the way the situation is now being met, it seems hardly expedient that the Commissioner of Prohibition and the Secretary of the Treasury should undertake to improve the situation by the exercise of an authority that they do not possess. If any action by the officers named is called for, it is merely that of issuing instructions to narcotic law enforcement officers to report to the chief of the Narcotic Division of the Bureau of Prohibition all telephonic narcotic prescriptions issued under circumstances that do not show the good faith of the physician by whom the prescription was issued and of the pharmacist by whom it was compounded, and then to await specific instructions before instituting prosecution.

I append a memorandum showing the provisions of the Harrison Narcotic Act, as amended, and of the laws of Illinois requiring prescriptions for narcotic drugs to be in writing.

Yours truly,

WM. C. WOODWARD,

Executive Secretary, Bureau of Legal Medicine and Legislation.

EXTRACTS FROM THE HARRISON NARCOTIC ACT, AS AMENDED, AND FROM CAHILL'S REVISED ILLINOIS STATUTES, 1925, RELATIVE TO THE PRESCRIBING OF NARCOTIC DRUGS

*An act to provide for the registration of, with collectors of internal revenue, and to impose a special tax upon all persons who produce, import, manufacture, compound, deal in, dispense, sell, distribute or give away opium or coca leaves, their salts, derivatives, or preparations, and for other purposes, approved December 17, 1914, as amended, generally known as the "Harrison Narcotic Act."*

Section 1 . . .

It shall be unlawful for any person to purchase, sell, dispense, or distribute any of the aforesaid drugs, except in the original stamped package or from the original stamped package; and the absence of appropriate tax-paid stamps from any of the aforesaid drugs shall be prima facie evidence of a violation of this section by the person in whose possession same may be found; and the possession of any original stamped package containing any of the aforesaid drugs by any person who has not registered and paid special taxes as required by this section shall be prima facie evidence of liability to such special tax: Provided, that the provisions of this paragraph shall not apply to any person having in his or her possession any of the aforesaid drugs which have been obtained from a registered dealer in pursuance of a prescription, *written* for legitimate medical uses, issued by a physician, dentist, veterinary surgeon, or other practitioner registered under this act; and where the bottle or other container in which such drug may be put up by the dealer upon said prescription bears the name and registry number of the druggist, serial number of prescription, name and address of patient, and name, address, and registry number of the person *writing* said prescription; . . ."

Section 2. That it shall be unlawful for any person to sell, barter, exchange, or give away any of the aforesaid drugs except in pursuance of a written order of the person to whom such article is sold, bartered, exchanged, or given, on a form to be issued in blank for that purpose by the Commissioner of Internal Revenue. . . . Nothing in this section shall apply—

\* \* \*

(b) To the sale, dispensing, or distribution of any of the aforesaid drugs by a dealer to a consumer under and in pursuance of a *written* prescription issued by a physician, dentist, or veterinary surgeon registered under this act: Provided, however, that such prescription shall be dated as of the day on which *signed* and shall be *signed* by the physician, dentist, or veterinary surgeon who shall have issued the same: And provided further, that such dealer shall preserve such prescription for a period of two years from the day on which such



prescription is filled in such a way as to be readily accessible to inspection by the officers, agents, employees, and officials hereinbefore mentioned.

\* \* \*

# CAHILL'S REVISED ILLINOIS STATUTES. 1925

Chapter 91, Section 66. . . .

Fourteen a. It shall be unlawful for any person, firm, or corporation to sell, barter, exchange, distribute, or give away any opium or cocoa leaves, or any compound, manufacture, salt, derivative or preparation thereof, except in pursuance of the *written* prescription of a licensed physician, licensed dentist or licensed veterinarian, who is registered with the United States collector of internal revenue in the district in which he resides, in accordance with the provisions of an Act of Congress entitled, "An Act to provide for the registration of, with collectors of internal revenue, and to impose a special tax upon all persons who produce, import, manufacture, compound, deal in, dispense, sell, distribute, or give away opium or coca leaves, their salts, derivatives, or preparations, and for other purposes," approved December 17, 1914; said prescription shall contain the name and address of the person for whom prescribed (or if prescribes by a veterinarian, shall state the kind of animal for which prescribed and the name of the owner thereof), shall be dated as of the day it is *signed*, and shall also be dated as the day it is filled, shall not be altered or changed by any person except the physician, dentist or veterinarian by whom it is *signed*, and shall be retained on file by the person, firm or corporation by whom the same is filled for a period of not less than two years and it shall be filled but once, and of it no copy shall be made by any person except for the purpose of record by the physician, dentist or veterinarian by whom it is *signed*, or by the Department of Registration and Education and officers of the law, and it shall at all times be open to the inspection of the prescriber, the Department of Registration and Education and all officers of the law. . . ."

## PROHIBITION ENFORCEMENT

September 3, 1927.

To the Editor:

I am enclosing herewith copy of letter sent to Director of Prohibition, Mr. Yellowley, which is self-explanatory. It seems to me that the State Society should take some action to have representatives present who know the law when investigations of this kind come up. There seems to be a general program of intimidation to disgust the doctors so they will throw up their books. The Federation of Labor always sent legal representatives to hearings when their members are accused of violations in order to see that they get justice.

It is not only the prohibition law that is harassing the doctor, but the Harrison act as well. A patient entitled to morphin to ease their pain until death takes them has the same difficulty in getting their prescriptions filled. The investigation is carried on in the same high handed way. As an example, they went into the Metropole Hotel with Mary Doe warrants and demanded admission to every guest who was in the hotel less than two weeks. They knocked at the door of an elderly nurse, whose only crime is that she has to work when others are taking it easy, wouldn't allow her time to dress at 2 o'clock in the morning; threatened her and accused her of being a morphin fiend. When they couldn't catch her in any way, they were unable to identify her, they called up their director and then announced they had made a mistake. The woman was sick for several days following the shock. If you care for this woman's name and address I will furnish it to you.

If you can do anything to arouse the indignation of the profession to secure correction of these evils I trust you will pass these letters on to the proper authority or publish them as you see fit.

Thanking you, I am,

Yours very respectfully

HELEN B. FLYNN, M. D.

Sept. 3, 1927.

Mr. Yellowley,  
Director of Prohibition,  
Chicago, Illinois.

Dear Sir:

On August 29 at approximately 11 A. M. two men called at my residence representing themselves as government officers—one flashing a bronze pin on his belt—the other a small pocket-book containing a photograph. They demanded my liquor book and blanks for inspection.

They took approximately one hour to examine book and quiz me. Their quiz was exceedingly illegal wanted to know why there was no sign on my house, where my office was, why I had made some erasures; why I had so many families with the same surname; why the diagnosis was not on blanks. I answered them in a straightforward manner, because I am not a criminal—if I were no doubt I would have told them to go to a hotter region than Chicago.

They demanded that I call my sister, who

lives upstairs. Quizzed her as to the date she got the whiskey, how much she paid the druggist and how much she paid me and what was the name of the brand. The net result was she suffered from a general nervous spell for several days—nice treatment for the mother of a young infant. They next went to the home of a patient—a very bad cardiac case, to whom shock of any kind may mean instantaneous death—wanted to know if her husband lived there and when he would be home. If this is sane enforcement of the Volstead act, can you tell me what is the difference between it and Russian Communism?

In regard to diagnosis, I have tried to make such since I received your letter; previous to that I wasn't even aware that was necessary—it is only about 3 months since you sent that letter. In this regard let me ask why has the prohibition forces the right to annul an age old law, the right of a physician to hold his patient's ailments in confidence. Your men view these books—so does everyone handling them in your office. Why not amend the law to publish the ailments of everybody treated by a doctor in the daily papers, and perhaps then the reformers who propose such grotesque laws will have to fade out of the spotlight. What if their doctors abused the confidence reposed in them? Some of my patients wouldn't take anything with alcohol in it if they knew they were getting it. Why has the prohibition office the right to undermine my patients' confidence in me? I am a graduate of the University of Illinois and the state has licensed me to practice medicine. I take the responsibility for the treatment of these people; if death occurs I have to sign a certificate, the state won't allow your men to sign one without a medical license; then, why dictate the type treatment I shall use?

I believe that there is a bona fide place in medicine for the use of alcohol and alcoholic products—that much better results can be obtained with them in chronic diseases, than some of our arch medical hypocrites who do nothing but practice surgery, and leave the patient to the drudging physician after he has collected his fee without producing results. The toxins of both cancer and tuberculosis are soluble and dialyzable in a 50 per cent. solution of alcohol. It is therefore apparent that when these toxins

are soluble they can be more easily excreted by the body. Moreover, alcohol taken in reasonable quantities when pure is practically non-poisonous and rapidly excreted.

Before making a protest to the medical societies, lest I might have been a victim of confidence men, I called your department and was referred to Mr. Carson. His assistant answered and I stated my case and asked if any investigators had been sent out to my address on that date. He informed me unless I could furnish their names, he couldn't tell. I requested that he look up his reports for that date and he informed me he had no reports as yet for that date although over forty-eight hours had elapsed.

Now I would much prefer not to have any book and let the patients die a natural death than be hounded to death by men, who may or may not be confidence men—the United States government apparently doesn't care from their attitude.

Now, Mr. Yellowley, I do not believe any legislator would affix his name to a law of this type, if he knew beforehand how it was to be perverted, neither do I believe that the law can stand without medicinal alcoholic products. As to beverage alcohol, I have never given it for that purpose, and I believe if all the doctors in the city of Chicago were permitted to issue their books for beverage purposes alone, there would not and could not be as much drunkenness in this territory as there is since prohibition started. We never had so much drunkenness and so many murders, but it apparently is not noticed by the people who are supposed to enforce the law. Why not divert some of these energetic men who know nothing about medicine to collecting bona fide revenues for the United States?

If this course of affairs continues, I will take the matter to Washington, if it is necessary to make a trip there to present my claims.

Yours very respectfully,

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### 13 REASONS FOR REGISTERING BIRTHS

There is hardly a relation of life, social, legal or economic, in which the evidence furnished by an accurate registration of births may not prove to be of the greatest value, not only to the individual, but also to the public at large. It is not only an act of civilization to register birth certificates, but good business, for they are frequently used in many practical ways:



1. As evidence to prove the age and legitimacy of heirs.
2. As proof of age to determine the validity of a contract entered into by an alleged minor.
3. As evidence to establish age and proof of citizenship and descent in order to vote.
4. As evidence to establish the right of admission to the professions and to many public offices.
5. As evidence of legal age to marry.
6. As evidence to prove the claims of widows and orphans under the Widows and Orphans Pension Law.
7. As evidence to determine the liability of parents for the debts of a minor.
8. As evidence in the administration of estates, the settlement of insurance and pensions.
9. As evidence to prove the irresponsibility of children under 12 years of age for crime and misdemeanor, and various other matters in the criminal code.
10. As evidence in the enforcement of laws relating to education and to child labor.
11. As evidence to determine the relations of guardians and wards.
12. As proof of citizenship in order to obtain a passport.
13. As evidence in the claim for exemption from or the right to jury and militia service.—Minnesota Medicine. (From Annual Report, Chicago Department of Health, 1894, page 50.)

## MORE GOVERNMENT INTERFERENCE

### INTERNAL REVENUE ACT

#### *Physician's Opinion as to Whether Patient Believed He Was in Danger of Death at a Given Time*

It has become the custom during the past few years for the Internal Revenue Department of the Treasury to send agents to visit physicians in order to ascertain the physician's opinion as to whether a certain patient of his believed he was in danger of death at a given time.

It is commonly known that wealthy individuals give away part of their estate to their wives and children in order to avoid the payment of inheritance taxes, and it is assumed by the Internal Revenue Department that this is done more frequently when the wealthy individual is affected with some disease which may prove fatal.

The Revenue Act of 1926, under Section 1104, states that the Commissioner of Internal Revenue or an inspector designated by him is authorized to examine any books, papers, records and memoranda, etc. Section 908 of the same act provides that the board may summon witnesses, produce the necessary books, papers, etc.

On the other hand, Section 352 of the Civil Practice Act of the State of New York provides that: "A person duly authorized to practice physics or surgery . . . shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity. . . ." The privileges given under this section can be waived under Section 354 of the same act by "the personal representative of the deceased person."

There is no judicial decision on Section 1104 of the Revenue Act of 1926, and in regard to this section the counsel of The New York Academy of Medicine has given the following opinion:

"In my opinion, if the personal representatives of the decedent have waived the right which the statute has established, the physician can be compelled to submit to examination and to furnish his records.

"It would, therefore, seem to me that, before a physician submits to questioning by a representative of the government, it would be necessary for him to obtain the consent of the personal representative of the decedent. Otherwise he would be breaching the confidential relationship existing between the physician and patient.

"In the event that the personal representatives of the decedent have not waived the right above mentioned, or the consent of the personal representatives of the decedent is not obtained, it would not, in my opinion, be necessary to furnish the data, or render the opinion requested."

It would, therefore, seem advisable for physicians to secure the consent of a member of the family or an authorized representative of the deceased before giving confidential information to an agent of the United States Internal Revenue Office.—N. Y. S. J. of Medicine.

## MANY ROADS LEAD TO STATE MEDICINE SHALL WE GOVERNMENTALIZE MEDICINE AS WE HAVE EDUCATION?

Many roads lead to state medicine. Some are well sign-posted highways; others are devious and as free from signs as the game stalker's trail.

Government health insurance is one of the highways which usually begins as limited service for limited groups and expands until it becomes universal. This form of socialism, which not only breaks through the sacred boundaries of the family circle and stalks to the bedside of the sick or "pre-sick," but invades the personal liberty guaranteed to free citizens, is already old enough in several countries to make its effects observable.

The extensive world-wide revival of socialism during the last few years includes that form of it long known as state medicine, and it therefore behooves those intelligently interested in the health and welfare of people to lay a barrage along this highway and strengthen the guards along the more devious trails leading to the same goal.

The open offensive for state medicine has not been renewed in the United States since its overwhelming defeat by the voters of California some years ago, in which even physicians—honest, able ones were active on both sides of the question.

One of our able physicians who favored California compulsory health insurance initiative defeated by the voters, after more than a year's observation abroad, writes us in a recent letter:

"I intended when I came to England making a real study of social and health insurance, but I have not more than scratched the surface. Of course, I don't

think they have health insurance at all. What it amounts to is merely a means of making medical relief available to a lot of people who would neglect themselves or else overcrowd the outpatient clinics. Curiously the doctors are more satisfied than those who are 'insured,' for those who have good-sized panels—2,000 is the maximum—get a steady certain income and carry on their other practice as well. They are planning now at the Ministry of Health to incorporate preventive medicine with regular recurring examination of the premium payers at biennial times, hoping to catch the early causes of rheumatism, arthritis, heart disease and tuberculosis which contribute here overwhelmingly to morbidity. The peculiarity that the English workers had, years before the coming of health insurance contributions, well-organized contributory relief societies known as 'friendly societies,' made the administration of the insurance act easy. Most of the actual administration of such benefits and determination of the individual's needs are under the control of such societies. *Nevertheless, the system is rapidly moving on toward state medicine.* In fact in every way England is more of a socialistic state than the most enthusiastic socialist of a few years back could have expected to find anywhere at any time, and as a result the country is in a state of dry rot."

"Dry rot" of a progressive service; dissatisfaction among those served; intellectual stasis and a pittance in compensation for those who serve; inculcation of the spirit of dependence where thrift should be a watchword, and making a political plaything of the most personal and precious of human assets—health—is the inevitable consequence of any form of state medicine, by any name.

While the frank state medicine movement is for the moment quiescent in our country, the promoters of devious trails to the same end are exceedingly active and numerous; many of them financed, their propaganda often published at public expense and more often as "news."

Different nonmedical groups are working for the control of medicine through control of hospitals, laboratories, clinics, organizations of technical assistants to physicians and other agencies essential to the complex well-rendered service to health.

Some of our universities are teaching, practicing and otherwise fostering a spirit among students that health and illness are state functions which ought to be as "free" and as official as education and served by the same or similar machinery. Some medical schools foster this spirit with both free and near-free clinics for rich and poor. Some organizations of educated groups of physicians themselves contribute to the movement; and individual doctors, on the theory that certain contact will increase their clients, or that they may aid worthy causes by serving the sick in public places managed by others instead of in their own offices, thereby help materially the arrival of the day when the doctor will be but another hired man.

Being the hired man is a perfectly honorable occupation, and many and rapidly increasing numbers of physicians are so engaged. This in itself is not the

danger to the cause of medical and health progress, but it is one of the trails that astute promoters hope to see converted into a highway that will make of medicine as complete a government function as education now is. This at first, of course, to be a voluntary matter so far as the citizen is concerned, but later to be as compulsory as attendance of children now is at government schools.

In any event we are moving along that road, and so certain are some that the goal is in sight that they are attempting legislation calculated to make health and medicine subsidiary to education, instead of an independent government unit when the new highway of universal compulsory government medicine reaches Washington.

We have a feeling that somewhere along this route an impossible obstacle will be encountered and that medical and health service will continue to be for a long time a personal matter between those who serve and those who need service, with the proviso that the state will increase the volume and quality of health service for the insolvent as the paramount duty it is.—California & Western Medicine, December, 1926.

#### DIET THAT PUTS GASTRIC ULCERS COMPLETELY AT REST

Dr. Jarotzky, in the June 4, 1926, issue of *Schweizerische Medizinische Wochenschrift*, outlines a very simple diet for the treatment of gastric ulcers as follows:

After the onset of a severe hemorrhage or during it, the patient is kept in bed and is given the raw white of an egg in the morning and twenty grams of fresh unsalted butter at about 3 p. m. This is increased every succeeding day by one white of egg and twenty grams of butter, so that on the tenth day, about the whites of ten eggs and 180 drams of butter are given. Aside from this food, the patient is given nothing to eat or drink—no drugs and no nutritive enemas. This diet fails only in the cases of very marked obstructions (stenoses) in the region of the pylorus or that of the anastomotic opening. To apply this diet for longer than ten days would be to disturb him unnecessarily. After this period the patient is given egg albumen in the morning, and in the afternoon strained soups which are made in water without salt and with fresh unsalted butter for various cereals (rice, manna, barley, etc.), then mashed potatoes and various purees of vegetables (also cooked in water, without salt, and with butter). Absolutely no milk is given during the whole treatment.

#### SUNLIGHT THERAPY NOT NEW

In or before the eighth century B. C., says Dr. C. W. Saleeby in *Sunlight and Health*, Zarathustra, foremost among sun worshippers, taught the cult of the sun and the green leaf and thrift, in place of pillage and murder. In the beginning of medicine, Hippocrates, practising at Cos, in the Temple of Aesculapius, son of Phoebus Apollo, god of the sun and music, practised



the sun cure. In the beginning of our era, Galen and Celsus used the sun.

In 1893, says Dr. Saleeby, Niels Finsen began to cure lupus by the local use of sunlight, and Sir James Crichton-Browne made observations to the same effect in England. In 1900, on May 1st, the London Hospital began the cure of lupus by the local use of sunlight, thanks to Queen Alexandra, who was instrumental in bringing her young fellow countryman's idea from Copenhagen.

## STATUS LYMPHATICUS A PURELY IMAGINARY CONDITION

### THE MALIGNED THYMUS

The thymus gland and its persistence in hypertrophy in infants, the part it plays in causing deaths of spectacular and dramatic suddenness, and its relationship to that will o' the wisp of pediatric pathology, status lymphaticus, has figured largely in pediatric practice during recent years. The occasional demonstration of a stymic shadow by the X-ray has increased this interest to a point where failure to X-ray the puerile chest before operation has, in some circles, almost reached the point of constituting malpractice.

The interesting part of this anti-thymic zeal lies in the fact that no scientifically acceptable evidence has ever been presented to show that an enlarged or persistent thymus ever figured in an operative death, or that status lymphaticus is actually a status at all. In the midst of the precipitate and voluble conclusions that have been reached concerning the thymus gland, it is of interest to find such a calm and collected presentation of the situation as Edith Boyd has provided for us in the current number of the *American Journal of Diseases of Children* [33:807 (July) 1927].

The first description of death caused by suffocation from pressure made on the trachea by the thymus emanated from F. Plater in 1614. Status thymicolymphaticus was first described by A. Paltauf in 1890, and his conception of this condition, in which a large thymus goes hand in hand with general lymphoid hypertrophy, has been accepted to the present day. What has been lacking in this whole discussion has been a large series of observation of the thymus gland and the lymphoid tissue in infants and children who have not died as the result of wasting diseases, and it must be remembered that few well nourished children die during the first month of life. Accurate measurements under suitable conditions of normalities have now shown us that the thymus loses weight during the first two weeks of life, during which time it is being compressed in and around the mediastinal structures. After this time the gland begins to increase in size again, and it is at this stage that symptoms of pressure may be noted. The fact that thymic symptoms do not appear after the first year of life is because, although the thymus has been increasing in size, the chest has been growing at a much more rapid rate, so that the gland becomes relatively insignificant.

It is granted, then, that symptoms may be produced during the first year of life by mechanical pressure of

a normal gland on the mediastinal structures and especially on the recurrent laryngeal nerve; it is doubtful if this pressure ever results in death. The picture of status thymicolymphaticus is that of the normal thymus and lymphoid tissue of the *well nourished child*—the child that rarely comes to autopsy.

Cases of supposed death by status lymphaticus were then investigated by Dr. Boyd, and in every one another possible cause of death was found; one, for instance, died of an unusual accidental electrocution; one of stychnine poisoning; others of early pneumonia, etc.

This type of investigation indicates what many conservative pediatricians have already been thinking—that a diagnosis of death by status lymphaticus may not be a terrible one, because status lymphaticus is a purely imaginary condition.—Boston M. & S. Journal.

## A NEW MILK MODIFIER

Horlick's Milk Modifier, a new product made by the Horlick's Malted Milk Corporation, Racine, Wisconsin, is now being introduced to the medical profession. This maltose and dextrin product, which is derived exclusively from malted grains, was first announced at the annual meeting of the American Medical Association in Washington, D. C., in June and created much interest. Since that time it has been presented to convention gatherings in other parts of the country and the Horlick representatives are now calling on individual members of the profession.

Horlick's Milk Modifier is presented and supplied to the profession along ethical lines. No feeding directions accompany the package. A statement on the wrapper is to the effect that the product is for prescription by physicians only.

In conformity with the Horlick policy the Milk Modifier is put up in hermetically sealed glass jars only. The one-pound size retails at 75 cents and the five-pound jar at \$3.00. The fact that it carries the name "Horlick's" is a guarantee that only the finest materials are used.

In the June 18th issue of the *Journal of the American Medical Association*, under the heading of New and Non-official Remedies, the acceptance of the Horlick Milk Modifier was announced by the American Medical Association. The product differs from the malt sugars in that it incorporates soluble and readily assimilable protein and valuable mineral salts from the grains. The Horlick firm points out this fact as a decided advantage for its product.

Another point which is mentioned as an advantage in favor of the new product is the proportion of its two chief carbohydrates, maltose and dextrin, which are 63% maltose and 19.5% dextrin.

The new Horlick formula apparently has met with pronounced success during a period of trial among physicians in Canada.

Samples of the new product, literature concerning its use, prescription blanks and file cards giving methods of preparation, are available for members of the medical profession and will be sent upon request.

## THE AMERICAN COLLEGE OF SURGEONS CONGRESS

The American College of Surgeons will hold the seventeenth Clinical Congress in Detroit, October 3-7. Headquarters will be at the Book-Cadillac and Statler hotels and the meetings will be held at the Statler Hotel and Orchestra Hall. The Hospital Standardization Conference will extend from Monday morning to Thursday afternoon and will include a discussion of hospital and nursing problems and hospital demonstrations. Monday evening's program will include an address of welcome by the local chairman, the address of the retiring president, the inaugural address of the new president, and the John B. Murphy oration. Clinics in general surgery will be held in the Detroit hospitals each morning from Tuesday to Friday, and in eye, ear, nose and throat work the same afternoons. Clinics will also be held at University Hospital, Ann Arbor, Tuesday to Thursday. On Tuesday and Wednesday mornings and afternoons, and on Thursday morning, clinical demonstrations will be held at the Statler Hotel (mornings) and Orchestra Hall (afternoons). On Thursday afternoon the annual meeting of the Governors and Fellows will be followed by a cancer symposium. On Friday afternoon there will be a symposium on traumatic surgery, to be participated in by leaders in industry, labor, indemnity organizations and the medical profession. On Tuesday evening the program will take the form of a celebration of the Lister Centennial. On Thursday evening there will be a large Community Health Meeting in the Masonic Temple and on Friday evening the Annual Convocation of the College. Other outstanding features will be the exhibits. In addition to the commercial exhibits there will be a replica of the Lister exhibit at the Wellcome Museum of Natural History, London, including Lister's operating rooms and hospital wards. The Departments of Hospital Activities, of Literary Research, and of Clinical Research of the college will also present exhibits. Among the foreign guests will be Sir John Bland Sutton, England; J. M. Munro Kerr, Scotland; Gordon Craig, Australia; Gustaf E. Essen-Moller, Sweden; S. A. Gammeltoft, Denmark. The retiring president is W. W. Chipman, Montreal, and the president to be inaugurated, George David Stewart, New York. The Lister oration will be delivered by W. W. Keen, Philadelphia. The chairman of the Detroit Committee on Arrangements is Alexander W. Blain.

## DRUG STORE SHOWS UP QUACKERY

The average drug store carries so-called patent medicines chiefly because a certain proportion of the public is misguided enough to demand them. As there is a much smaller profit on such goods than on most of the other merchandise carried, it would be to the druggists' advantage to abandon this general line were it not for incidental sales of a general character.

Few have the courage to do this, but a drug store in Spokane goes one step farther according to the *Health Messenger* of Seattle, Washington, and actually advertises in its store windows:

"These Remedies are an Insult to Public Intelligence."

"We Consider This Class of Merchandise 'The Bunk'."  
"When Ill Consult Your Physician; Then Let Us  
Fill Your Prescription for You With Drugs of  
Value."

This idea commends itself as a really new form of health education.

Health News, Aug. 1, 1927.

## OLE'S TESTIMONY

Ole Olson, trackwalker, was testifying after a head-on collision. "You say," thundered the attorney, "at ten that night you were walking up toward Seven-Mile crossing and saw No. 8 coming down the track at sixty miles an hour?"

"Yah," said Ole.

"And when you looked behind you you saw No. 5 coming up the track at sixty miles an hour?"

"Yah," said Ole.

"Well, what did you do then?"

"Aye got off track."

"Well, but then what did you do?"

"Well, Aye said to myself, 'Dis bane hell of a way to run a railroad.'"

## A SPINE SONG

(To be sung to the Good Old Pre-War Tune)

Call a doctor in the night time

If your pulse is acting queer,

For with him it's just the right time

To remove your leg or ear.

(Chorus)

For it's always fair weather

When Specialists get together,

With your lungs full of ether

And your fam'ly full of fear.

Oh, it's always fair weather

When Specialists get together,

With a spine on the table

And a good saw ringing clear.

J. S. in *Life*.

## A CARBON COPY

"Dat baby of you's," said Mrs. Jackson, "am de puffect image ob his fathah."

"Yas," answered Mrs. Johnson. "He am a reg'lar carbon copy."—*Journ. Am. Med. Editors' Assoc.*

## ANATOMICALLY SPEAKING

Judge—"Where did the automobile hit you?"

'Rastus—"Well, Jedge, if I'd been carrying a license numbah it would hab busted to a thousand pieces."—*Puck*.

## TOO LATE TO OFFICIATE

Country Policeman (at scene of murder)—"You can't come in here."

Reporter—"But I've been sent to do the murder."

Policeman—"Well, you're too late; the murder's been done."—*Answers*.



## Original Articles

### THE DEVELOPING RELATIONS OF THE PHYSICAL SCIENCES TO DENTISTRY, MEDICINE AND PHARMACY\*

G. W. CRILE, M. D.

Cleveland Clinic

CLEVELAND, OHIO

President Kinley, members of the graduating classes, ladies and gentlemen:

The conventional polite gesture, amounting to an overworked bromide, of offering you congratulations on your good fortune in meriting a degree from the University of Illinois is appropriate on such an occasion as this. With respect to your Alma Mater you are indeed fortunate but your real great good fortune lies beyond the University of Illinois and embraces it—it is that you are beginning your careers in the golden age of science; in a golden age of economics; in a country of free and equal opportunity. There is no romance in fiction equal to the romance of science. I do earnestly congratulate you on becoming a part of the present epochal movement in science.

The medical sciences, of which dentistry, pharmacy, and medicine are subdivisions, are today struggling out from the state of empiricism toward the status of exact sciences. In this progress two tendencies may be noted, one toward increasing specialization within the medical field itself, the other toward increasing interrelations with other sciences—with physics and chemistry in particular.

During the past century the fields of physics and chemistry have been extending with phenomenally rapid strides, and this progress, together with the ever increasing specialization within the field of medicine, has caused workers within this field to realize that they must look increasingly to the sciences of chemistry and of physics for the interpretation of vital forces and for aid in the extension of therapeutic measures.

We have been accustomed to think of the wonders of physical science in terms of such achievements as the rapid development of world-wide radio communication, and of the flight of Lindbergh, but no less dramatic, no less far-reaching,

are the achievements of the physical sciences in the field of medicine.

That the phenomena of life are subject to the same physical and chemical laws as those which govern the phenomena of the so-called inanimate world is now generally accepted, and the rôle of electro-chemical processes in living phenomena is indicated by the findings of many investigators from Becquerel in 1835 and Holmgren in 1866, to the more recent investigations of DuBois Raymond, Crehore and Williams, Burdon Sanderson, Waller, Bose, Piper, Loeb, Steinach, Einthoven and Jolly, Gotch and Horsley, Nernst, A. V. Hill, McClendon, Bayliss, Lillie, Tashiro,—and even this long list is not inclusive, as the number of investigators in this field is constantly increasing. New fields of investigation have been opened which are called 'biophysics' and 'biochemistry'; but however they may be designated, they signify simply that biologists and physicists alike are seeking to discover and to understand how the universal laws of physics and of chemistry govern biological phenomena.

The mechanical and physical aids which medicine owes to physics are too numerous for more than brief mention here—one need merely state as outstanding examples the microscope, the electrocardiograph, the cystoscope, the ophthalmoscope, etc., which have so far extended diagnostic and therapeutic possibilities. To the science of physics we owe our understanding of the mechanics of the circulation of the blood and the interpretation of the sounds elicited by auscultation and percussion. To the science of physics we owe the development and all the achievements of radiology—the discovery of radium and of its effects upon different media, and the development of methods for its application to the organism and for the preparation of radium emanations. Physicists developed the x-ray, first for diagnostic purposes only, and later as a highly potent therapeutic agent; and physicists are now studying the effects of the x-ray on biological tissues, while methods for varying and modifying the type and intensity of the rays are being investigated in order that their therapeutic potentialities may be still further extended.

To physics a still newer therapeutic agent should be credited—diathermy—the biological potency of which in turn rests upon a universal

\*Commencement address given before graduating classes of the Schools of Pharmacy, Dentistry and Medicine, of the University of Illinois, June 11, 1927.

physical-chemical law, that is, that chemical activity is increased in direct relation to increase in temperature. The organism itself has employed this law in its own strife against microbic invasion, often to the extent of self-destruction. By the controlled application of diathermy this same principle can be directed to any organ or tissue—the result of increasing the temperature of the part being an increase in the chemical activity of its cells, as a result of which infection is combated. Or if the energy of the organism as a whole is at a low ebb, then by passing the high frequency electric current through the body, especially through dominant organs such as the liver—and of this I shall have more to say later on—the organism as a whole is energized.

In cases of hemorrhage and surgical shock diathermy holds a place second only to that of blood transfusion. Diathermy may be applied to any part of the body, but the most convenient and efficient method of energizing the body as a whole is to place a plate on each foot so that the high frequency current, in passing from pole to pole, will pass through the fluids and tissues, converting electricity into heat at the points of resistance—namely, at the boundaries of the cells.

The application of this method is the result of certain findings in the course of biophysical researches which have been in progress for many years. As one phase of these researches, thermo-electric studies of temperature variations in various organs and tissues were made in the belief that since variations in functional activity indicate variations in oxidation; and since variations in oxidation must be manifested by variations in heat production; then if we could measure the progressive changes in the temperature of various tissues and organs under varying conditions, a cue to the relative activities of these organs and tissues would be secured. It was found, first, that the temperature of the brain gives a very accurate indication of the vital capacity of the organism as a whole; second, as had been indicated by previous histological studies and electrical conductivity measurements, that the brain and the liver are intimately associated in all processes which affect the organism as a whole; and third, that when heat is applied to the liver the temperature of the brain rises—the thermo-electric

response in the brain *preceding* the thermo-electric response in the liver. We found that the temperature of the liver and of the brain fall simultaneously when the viscera are exposed, the fall in the temperature of the brain being comparable to that which follows the removal of the liver; and, as stated above, we found that the direct application of heat to the liver produces an immediate effect upon the temperature of the brain. It is for this reason, as already stated, that we are applying the diathermy current through the viscera including the liver, both during and after operation in bad risk cases.

The identity of light waves with electricity has been established by the physicist. The clinical effects of the application of the sun's rays directly to the organism has repeatedly been demonstrated, in particular by its effect in general infections such as tuberculosis—to cite an outstanding example—or in localized infections, as was repeatedly demonstrated during the war. Based upon this knowledge of the nature of sunlight radiation and its effects upon living organisms, both plant and animal, physicists have developed the Alpine or the quartz mercury lamp by means of which the effects of exposure to the sun's rays may be reproduced. The use of the quartz or Alpine lamp has been found effective in cases of lowered resistance, and use has been made of this principle in the treatment of anemic or cachectic patients whose general resistance has been lowered by prolonged, wasting disease. That is, as the physicist has shown that the sun is the origin of all radiant energy, the physician has in turn been utilizing the energy thus created by applying to the human organism either the direct rays of the sun or the artificial but equally effective rays from the quartz or Alpine lamp.

That the cells of the body are immersed in electrolytic solutions, and that a supply of certain electrolytes must be maintained in the organism, has long been known. The exact function of these electrolytes and how the proper balance between them is maintained in the organism is not yet fully understood, although much light has been thrown upon this problem by the investigations of Macallum, Lillie, Meyer, Clowes, Loeb, Osterhout and others. That sodium, potassium, and calcium ions are essential to the maintenance of life is known; and



that an imbalance among them may produce disease, exhaustion, and death is also known. For an understanding of the function of these electrolytes and the identification of the mechanism whereby the balance between them is maintained the physician again must look to physics and chemistry. The chemist can and has determined the normal constituents of the body fluids, and the physicist must determine their action and interactions within the body. Researches are now in progress whereby it is hoped that the mechanism for the maintenance and mobilization of the sodium ions in particular may be determined.

Mathews, Menten, Crozier, Loeb, Beutner and others have made investigations which show that the acid-alkali balance of the organism has a vital significance. That this is true has long been indicated by cytological studies which have shown variations in the differential stainability of the nucleus and cytoplasm of the cells of the organism—of the central nervous system in particular—in the varying stages of activation from hyperstimulation, on the one hand, when the differential stainability is increased, to exhaustion and death, on the other hand, when the differential stainability is lost. Very recently the biophysicist has again confirmed the interpretation of these cytological findings, for by microscopic dissection Chambers has succeeded in measuring directly the acid-alkali relation of the nucleus and the cytoplasm of the ameba; and he is now extending his investigations to similar measurements of different tissues of multicellular organisms.

On the basis that the activity or the vital capacity of any organ or tissue may be determined by electrical measurements—of conductivity and capacity, in particular—an attempt has been made to apply these physical measurements in the study of cancer. In our original research the electrical conductivity of over 200 sections of malignant and benign tumors of various organs and tissues was measured and it was found that the greater the degree of malignancy, the higher the conductivity of the tumor. In a later study the electrical capacity of cancerous tissue was measured and it was again found that, almost without exception, the greater the malignancy the greater the electrical capacity of the tissue; and—of especial significance, that after radiation malignant tumors

have a very low order of capacity. Very recently measurements of the electrical capacity and conductivity of a normal and of a malignant breast in an inoperable case have been made *in vivo*, and the capacity of the malignant breast was found to be more than 10 times greater than that of the normal breast, while the conductivity of the cancerous breast was more than three times higher than that of the normal breast.

Moreover, after the injection of adrenalin the conductivity and the capacity of the normal breast were markedly increased, whereas the conductivity and capacity of the cancerous breast were markedly decreased. These findings, the interpretation of which cannot be offered at the present time, indicate the possible development of a new method whereby to determine the degree of malignancy and in consequence the prognosis in certain cases of cancer.

The mechanism whereby the variations in electric capacity are maintained is indicated by researches which were initiated in the laboratories of the Cleveland Clinic Foundation in collaboration with Dr. Hugo Fricke, who found that the film which surrounds the red blood corpuscles is of the order of  $4/10,000,000$  of a centimeter in thickness and has an electric capacity of a high order, i.e., 0.8 microfarads per sq. cm. On the basis of this finding we feel justified in assuming that the lipoid films which surround each cell, each nucleus, each spherule within the cells have a high capacity. Experiments are now in progress whereby it is hoped that the internal conductivity of the cells will be determined; and from these three factors, the total conductivity of the tissue, the internal conductivity of the cells, and the capacities of the tissues, an indication—and perhaps an actual determination, of the variations in the potential of the different organs will be determined—a point of the highest significance.

Up to the present time our knowledge of the therapeutic action of drugs has depended principally upon clinical evidence. By the application of physical methods of measurement it may be possible to determine what organs and tissues are primarily affected by drugs, and to what extent their therapeutic action may be controlled and extended. Biophysical researches in this direction have already been made in the case of adrenalin, hydrochloric acid, sodium bicarbonate, strychnin, morphin, bromids,

atropin, caffein, and alcohol, the findings of which cannot be reported here because of lack of time, except to say that in each case the effect of the drug upon the organism as a whole appears to bear a direct relation to its effect upon the electrical conductivity, capacity and temperature of the brain and of the liver. Undoubtedly in the future the pharmacologist in his investigation of the potency of various drugs will add these physical methods of investigation to his armamentarium.

The advance already made in the application of the physical sciences toward the solution of the nature of life justifies the belief that some day we shall be able to create structures resembling living protoplasm in the sense that such structures will be capable of executing some of the reactions of living cells.

It is inevitable that the future trend of progress in the biological sciences in the fields in which you are to play a part—dentistry, pharmacy, and medicine—must be toward methods of physical investigation. The instruments of precision which you will use have been developed by the physicist, and for the interpretation of the laws which govern the action of those instruments you must also turn to the physicist.

The rôle of the physicist, as Millikan has stated, as of all workers in what is called the field of pure science, is to spend his life in trying merely to ferret out nature's secrets and to better man's understanding of her laws. "For, in the final analysis, the thing in this world which is of most supreme importance, indeed the thing which is of most *practical* value to the race, is not, after all, useful discovery or invention, but that which lies far back of them, namely, 'the way men think'—the kind of conceptions which they have about the world in which they live and their own relations to it. It is this expanding of the mind of man, this clarifying of his conceptions through the discovery of truth which is the immediate object of all studies in the field of pure science. Behind that object, however, is the conviction that human life will ultimately be enriched by every increase in man's knowledge of the way in which nature works, since obviously the first step in the beneficent control of nature is a thorough understanding of her."

Let me add to this statement by Millikan that

it behooves the rest of us to take these findings of the investigators in the field of pure science and to carry them further, each of us into his own field, in order that the laws which govern the effectiveness of the measures we employ may be extended; and, moreover, that by the investigation of the operations of the laws of physics in the human organism we may progressively extend our knowledge of the phenomena of life to the extent that the laws governing the phenomena of life may be better understood and that our value as dentists, as pharmacists, as physicians may be proportionately extended.

You are indeed fortunate to be entering upon your careers at this time when the art and science of medicine is rapidly attaining the status of an exact science. With this tendency toward increasing scientific accuracy in all divisions of the medical field there may be a tendency away from what may be termed the human side of your professions. To be humane in the true sense of the term does not mean that one need be less scientific; to be exact in his investigations and in the application of scientific facts does not mean that one need be less humane. Intellectual honesty and scientific accuracy combined with the spirit of service to humanity should be the foundation stone upon which to build your future careers.

Auspicious is this day of your beginning—the day of the triumphal return of Lindbergh which typifies a golden age in the union of science and character.

May I close with a warm welcome to you to the ranks of these professions which you are entering and extend to you the wish and hope that your fine ambitions will be realized in fullest measure.

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#### SOME DISEASES OF THE SOFT TISSUES OF THE MOUTH, WITH DIFFEREN- TIATION BETWEEN THOSE OF PRIMARY AND THOSE OF SECONDARY ORIGIN\*

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It is not generally recognized that to the square inches involved, the mouth contains a greater variety of diseases than any other region of the body. Therefore, since the mouth is the

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\*Read before a joint meeting of the Chicago Medical and Dental Societies, January 26, 1927.



dentist's field of observation and care, he should, as far as possible, be informed regarding these diseases. It is not possible to discuss in a paper of this kind all of the diseases of the mouth. If your attention is called even to a few of the most important ones, their discussion must of necessity be cursory.

It is true, as Dr. Pusey once said, that the mouth is a field where dermatology and stomatology overlap in a very intimate way; this is likewise true of rhinology, though in a less degree.

For convenience, oral diseases may be divided into three groups. First, those which are specifically primary in the mouth; second, those constituting part of the picture of an extra-oral disease with secondary manifestations in the mouth; third, those which may be either primary in the mouth or of an extra-oral origin.

In the first group mentioned we have as one of these primary oral lesions aphthous stomatitis, commonly called thrush, usually occurring in infancy, but as Osler says, occasionally being found in the mouths of debilitated adults.<sup>1</sup> It is a parasitic disease supposed to be due to the fungus *Oidium* or *Saccaromyces albicans*. The aphthe are shallow ulcerations covered with white films, found on the fauces, the soft palate, gums, tongue, and other parts of the mouth.

Another primary oral disease is acute ulcerous gingivitis, first described and named by the writer in 1906.<sup>2</sup> It is called ulceromembranous gingivitis by Weaver and Tunncliff, and by others "trench mouth." Occasionally it is called Vincent's disease and by some, very improperly, Vincent's angina.

This disease was very uncommon before the World War. One might not see a case in a large practice in many years. Our soldiers contracted it in France and on returning to this country spread it widely. It is an ulceration of the gingival borders of the gums, usually appearing first about the necks of the incisor teeth, later about all of the teeth. If one suffering from pyorrhea contracts this disease the ulceration extends rapidly toward the apices of the teeth, causing them to become loose, and as a result they are frequently lost. The disease appears as rather deep ulcers but rarely involves the bone. The ulcers are overlaid with a gray-

ish-white film, similar to that found covering syphilitic mucous patches. When this covering is removed, a raw surface is exposed which is extremely sensitive to touch. Salivation accompanies and generally the submaxillary lymphatics are involved. The patient usually has a slight rise in temperature and frequently is melancholic. The appetite is diminished and food is taken with difficulty, owing to the sensitiveness of the ulcers. The breath is always fetid, due to the bacillus fusiformis and spirilla, which Dr. Ruth Tunncliff positively demonstrated to be the cause of the disease.<sup>2</sup>

Another allied disease is Vincent's angina, found in the tonsils and fauces. It is due, as is acute ulcerous gingivitis, to Vincent's organism, the fusiform bacillus and spirilla. It has many of the characteristics of the gum disease just described.

The anerobe, bacillus fusiformis and spirilla, growing symbiotically with the hemolytic streptococcus are found in those infections occurring at the angle of the jaw, floor of the mouth, and in the submaxillary gland region, causing a hard, brawny swelling, a cellulitis known as Ludwig's angina.

Herpes labialis, commonly called cold sores or fever sores, is a disease of the lips too well known to need description. A counterpart of this disease is found in the mouth and is called canker sore. The mouth lesions are small, superficial ulcers, with well defined margins very sensitive to touch. It is believed that fever sores and canker sores of the mouth are etiologically the same; that is, a neuritis of toxic origin in the peripheral terminal nerves of the affected parts. The mouth ulcers are called herpes simplex. Some individuals are more subject than others both to herpes of the lips and to canker sores. It is not uncommon to see a crop of herpes of the lips following dental operations, due, not as the patient often thinks, to infected instruments, but in reality to slight trauma resulting from the stretching and injury of the parts.

Diphtheria, an acute infectious disease, attacks the tonsils, throat and lips and other parts of the mouth. This disease is caused by the Klebs-Loeffler bacillus. It is indicated by a white, false membrane covering the parts involved. It

1. Modern Medicine, Vol. III, p. 46.  
2. Dental Review, May, 1906.

2. Tunncliff, Ruth. Fusiform Bacilli and Spirilla. Journal of Infectious Diseases, April, 1911.

is very toxic, but is amenable to antitoxin treatment if taken in time.

Lichen planus is not infrequently seen in the mouth. It appears, Pusey states, "as inflammatory papules with a grayish surface, like points that have been touched with nitrate of silver."

Purpura hemorrhagica is seen as ecchymoses in the mucous membrane coverings of the mouth which do not disappear on pressure. Hemorrhages may accompany the disease. Purpura of the skin may or may not precede the mouth symptoms. Purpura is seen secondarily to such diseases as scarlatina, variola, and other diseases having skin symptoms. It occasionally causes sloughing of the mucosa.<sup>3</sup> Holt reports one case in which the soft palate was destroyed by this disease.

Primary tuberculosis of the mouth is rare. I have seen but one case that could have been definitely of primary oral origin. It is usually found secondary to pulmonary tuberculosis, or the mouth involvement is transmitted through continuity of tissue from lupus of the skin adjacent to the lips. I have seen but two other cases of tuberculosis in the mouth and in those the diagnosis was easily made from the fact that the patients were definitely tuberculous. Tuberculous ulcers of the mouth are distinguished from syphilitic ulcers, since the former are extremely sensitive to touch and have rough edges, while syphilitic ulcers are less sensitive and have well-defined thickened margins. Moreover, tuberculous ulcers do not respond to antisyphilitic therapy.

The primary expression of acquired extragenital syphilis is found on the lips, tip of the tongue and pharynx. In these locations chancre may appear first as a papule, which ulcerates. Indurated neoplastic areas surround the chancre. The lymphatics, submental or submaxillary, whichever are associated with the area infected, are soon involved, enlarge and become indurated. Multiple chancre is rare in the mouth, but is sometimes seen and is due to two or more infections at the same time.

When chancre of the lips and tongue becomes eroded and ulcerates, it enlarges and may simulate in appearance epithelioma, but the much more rapid growth of chancre, together with the earlier involvement of the lymphatics, the age of

the patient and the absence of the characteristic odor of ulcerating carcinoma, serve to aid in differentiation. In case of doubt, the Wassermann test, the microscope and antisyphilitic therapy will give a positive differentiation. Up to about the sixth to twelfth week after the appearance of the chancre the physical condition of the patient may remain normal. Then the secondary stage, if no treatment has been instituted, will appear and is indicated by a fever and rash, or the rash may precede the fever. Simultaneously with the rash and fever mucous patches occur either on the lips, tongue, soft palate, and the inner surface of the cheek, or, indeed, on any part of the mucosa of the mouth, regardless as to whether the disease originates primarily or secondarily in the mouth. Mucous patches also differ from canker sores in that they have more clearly defined margins and are not so painful to touch, and the immediate area is not so hyperemic.

There are other infections which are primary in the mouth, but more cannot be included in this paper.

Other distinctly primary oral diseases are the neoplasms. Among the most common of these is the so-called epulis, a benign fibrous tumor, usually pedunculated, generally seen on the gums, in the labial region of the jaws. It springs from the connective tissues of the perios-teum or periodontal membrane. It grows to considerable size at times and should be removed, since it may become malignant.

Angioma is found in the tongue and other parts of the mouth. It is also a nonmalignant growth, bluish, made up principally of enlarged veins of lymph vessels. Since this neoplasm grows to large size, it is subject to injury on mastication and, therefore, should be removed early. Occasionally serious hemorrhages follow injury of these growths.

Another nonmalignant tumor of the mouth, called a mixed cell tumor, is found in the tissues overlying the hard palate and in the soft palate. It is a smooth, rather hard, encapsulated growth, unilaterally placed, composed of salivary, glandular and other tissues. It does not break down and ulcerate as does the gumma of syphilis.

Another nonmalignant growth, an exostosis, which under the title of this paper should not properly be enumerated, since it has been mis-

3. Diseases of Infancy and Childhood.



taken for a malignant neoplasm, is given for differentiation. It is found in the median line of the hard palate and on the lingual surfaces of the mandible in the bicuspid region. It may grow to considerable size, but does not require removal unless the mouth becomes toothless and therefore demands artificial dentures. In such a case, if the growth is excessive, its removal may have been excessive shrinkage of the alveolar process, the ill-fitting plate irritating the soft be necessary.

Papillomata are found in the soft tissues overlying the hard palate, on the buccal mucosa and on the tongue. These growths are small and resemble warts of the skin. They should be removed, since as a result of irritation to which they are constantly subject it is supposed that they may become malignant.

Hyperplasias caused by ill-fitting artificial dentures are not uncommon. They are usually seen on the upper jaw, following long-continued use of temporary artificial plates, where there tissues and causing hyperplastic growths. All such growth should be removed and the patient supplied with perfectly adjusted plates.

Aneurysm of the posterior palatine artery is occasionally seen and mistaken for an alveolar abscess. The writer once saw a case in consultation which had been lanced by the patient's dentist, he supposing he was dealing with an abscess. Instead of finding pus when the tumor was lanced arterial blood spurted from the distended artery. To differentiate between an abscess and an aneurysm, make pressure distally to the tumor. If the tumor decreases in size an aneurysm is indicated. If the finger is placed on one side of the enlargement, the thumb on the opposite side and pressure made, a pulsation will be felt which not only raises the thumb and finger, as in the case of an abscess, but perceptibly separates them. To differentiate positively, aspirate a part of the contents of the enlargement.

We turn now to the discussion of malignant growths, which rank high as the cause of death. Statistics show that nephritis ranks first, cardiac diseases second and cancer third in their fatality. Dr. Wood of Columbia University, in a recent address before the Chicago Branch of the American Association for the Control of Cancer, said that physicians are often derelict in their duty

to their patients' welfare in treating lightly certain lumps in the breasts of women and growths in other parts of the body of both sexes, since early removal of such growths is the only safeguard in the control of cancer. This applies equally to the dentist who, I fear, does not always scrutinize every part of his patient's mouth to discover whether there may not be conditions which, though not malignant at the time, may become so. If he does not feel that he is qualified to judge of the nature of the abnormal condition found he should send the patient to one who is qualified. All new growths should be considered precancerous, since it is well known that early removal of cancer means a permanent cure, while delay means much suffering and death. Blair<sup>4</sup> says it is generally conceded that in cancer, if removed thoroughly in its incipency, practically 100 per cent. cures should be expected.

Not long since I saw a patient whose dentist had treated him for pyorrhea because the teeth were loose and the gums inflamed. When I saw the patient carcinoma had so far progressed that the cervical lymphatics had become involved, and he died. Had the disease been recognized early a life might have been saved.

Two malignant growths of the mouth are carcinoma and sarcoma. With rare exception, carcinoma of the mouth is found only in individuals beyond middle life, while sarcoma may occur at any age. It is not possible to picture either of these growths in words. They must be seen often for recognition, and even then mistakes may be made in diagnosis. The microscope and a Wassermann test may be necessary for differentiation.

Carcinoma may attack any part of the epithelial tissues of the mouth. Most of the cases I have seen seem to have originated at the sulci at the duplicature of the mucosa and gum. Leukoplakia lesions on the tongue or other parts of the mouth tend to become carcinomatous. When a carcinomatous growth has attained some size it tends to assume a cauliflower appearance. When it ulcerates it has a distinctive odor, and the patient generally experiences much pain. The cervical lymphatics sooner or later become involved, either from the infection or in secondary carcinomatous growths.

4. International Abstracts of Surgery, February, 1916.

Sarcoma of the mouth, except in connection with the bones of the jaws and periosteal tissues, is uncommon. The spindle cell and round cell sarcomas are malignant, while the giant cell or myeloid growth is not malignant in the sense that it causes metastasis. The more rapidly growing carcinomas and sarcomas are the most malignant.

While cysts are not, strictly speaking, tumors, they should be mentioned in this connection. Two kinds of cysts are found in the mouth, the mucous and the dermoid. The most common of these is the muciperosus cyst of the lip. It is a retention cyst appearing as a bleb filled with transparent mucus, caused by occlusion of the mucous ducts. It is so distinctive in appearance that it cannot be mistaken. It is about the size of a pea. A simple puncture of the cyst wall evacuates its contents and causes it to collapse, but unless the mucous gland connected with it is dissected out it soon fills again.

Ranula is a cyst in the floor of the mouth, generally unilaterally placed. It is not, as was once supposed, due to obstruction in the duct from the submaxillary or submental glands, but to atresia of the ducts from the mucous glands in the floor of the mouth. It is similar in appearance to muciperosus cysts of the lips but becomes much larger.

Another mucous cyst of the mouth is found on the under surface of the tongue in the median line just back of its tip. It is likewise a retention cyst due to the occlusion of the duct from Blandin and Nuhn's gland. These are extremely rare.

Dermoid cysts are found in the floor of the mouth, and are probably due to fetal inclusion of epidermal tissues. Those I have seen contained only thick, sebaceous matter which, having no normal outlet, causes the formation of a cyst which increases in size with the increase of the sebaceous material. Occasionally these cysts contain hair. Palpation of a dermoid cyst gives a different sensation from that felt when a ranula is touched. The latter feels like a small, thin tissue bag filled with water, while a dermoid cyst feels more like a similar bag filled with soft putty. On removal of the finger from a dermoid cyst a depression remains where it was touched.

Calcareous deposits are not infrequently found

in Wharton's and in Stenson's ducts. They are discoverable through the use of the probe by palpation or the roentgenograph. They should be removed, since they may occasion infection in the duct, especially if the concretion has a rough surface.

Many extraoral diseases are reflected in the mouth. For instance, syphilis, the Koplik spots of measles on the buccal mucosa, the strawberry tongue of scarlet fever, and some erythematous diseases, such as smallpox, chickenpox, etc. Ulcers in the mouth generally accompany pernicious anemia, and if no other cause for them is found then pernicious anemia should be considered in seeking a cause for them.

Spew, a tropical disease, is occasionally seen in more northerly latitudes. Ulcers similar to those accompanying pernicious anemia are found in the mouth in connection with this disease.

Secondary oral manifestations of syphilis or mucous patches are most commonly seen in the buccal mucosa and fauces. The ulcers are overlaid with a grayish-white film. The margins are well defined and slightly elevated, differing from tuberculous ulcers of the mouth which, as stated before, have roughened edges—"mouse gnawed," as they are designated. They are less sensitive to touch than are tuberculous ulcers.

Among those diseases which may be either primary or secondary in the mouth are chancre of syphilis, and occasionally gonorrhea. From more recent writers I have observed that lupus erythematosus and other erythematous diseases may not easily be differentiated from pemphigus and syphilis. Early symptoms of pemphigus are seen in the mouth as bullae, and these coalesce, with desquamation of the surface epithelium. It seems probable from the literature and from the few cases the writer has seen that the oral symptoms of pemphigus are probably a part of a picture of a general disease. An exception may be made in that form of the disease known as pemphigus vegetans, which, according to Goadby, occurs on the lips, gums, and other parts of the mouth as small whitish or reddish bulbous plaques. He says,<sup>5</sup> "The base of the patch becomes edematous, thickened and inflamed, and covered with an offensive viscid secretion."

5. Goadby: Diseases of the Gums and Oral Mucous Membranes, *Journal of Dermatology*.



Pemphigus is generally recognized as a disease with bad prognosis.

A tertiary oral manifestation of syphilis is the gumma, which is most commonly seen as nodes in the hard and soft palate and tongue, which later break down from ulceration. If the primary disease is not checked by treatment, the ulceration may destroy not only the soft tissues involved, but the bones of the upper jaw and nodes as well.

There are two conditions found in the mouth called leukoplakia which experience leads me to believe are different, both clinically and etiologically. True leukoplakia appears as dead white, rather hard patches with definite outlines, which are permanent, while in the other disease the patches are less white and are diffused generally over the tongue, floor of the mouth and oral mucosa. The latter is more like a film than the condition found in true leukoplakia. It is transitory, disappearing without treatment.

Primary and secondary diseases of the tongue are so numerous that a book of many pages would be required to do justice to them. Indeed, a book of 383 pages was written many years ago by Butlin and is still a classic on that subject. Glossitis is a word applicable to a multitude of tongue diseases.

Black tongue, hairy tongue, geographical tongue, Moeller's glossitis, are only a few of the numerous diseases of the tongue. The tongue often reflects gastrointestinal disturbances and other diseases. Formerly the physician having no laboratory assistance had to employ other means as aids to diagnosis. The tongue was then universally examined. Tongue and gum examination may still be helpful if properly studied.

The gums are subject to a variety of changes and diseases. Except from those conditions due to lack of personal care, calcareous deposits, sharp edges of broken teeth, clasps of partial dentures, and poorly fitted orthodontic appliances and bad proximal tooth contours, gum changes are usually secondary to other diseases.

Dietary insufficiency, as shown by the lack of certain vitamins, is notably illustrated in scurvy, and this deficiency without doubt causes other gingival diseases. Metallic poisons, such as lead, bismuth and mercury, are well known causes of inflammatory changes in the gums. Pregnancy in its later stages, especially if albumin is found

in the urine, is frequently accompanied by gingivitis. If an epulis exists at the time of pregnancy, the tumor takes on the same swollen, hyperemic condition existing in the gums. After parturition, the gum symptoms subside and the tumor decreases in size.

Gingivitis of the gums, although unlike the congested condition associated with pyorrhea, is often mistaken for that disease, and unsuccessfully treated as such. It appears as a brilliant red, inflamed condition at the gingival border, bleeds on being touched, but does not involve the periodental structures. It may be found even in the mouths of those who are careful of mouth and tooth hygiene. Blood examination and urinalysis give no clue to the cause. Dietary changes have been helpful in some cases, but so far as the writer has been able to discover, no definite cause or cure for the condition has been found. Here is opportunity for research.

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#### RADIO-TRANSLUCENT FOREIGN MATERIAL IN THE LARYNGO-TRACHEO-BRONCHIAL TREE\*

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CHICAGO

The word radio-translucent I am using in the sense that the light rays of the x-ray machine pass through the objects without sensitizing the plate, that is, without casting the shadow that would make the obstructing object visible in an x-ray picture. Pennies, telephone slugs and other metal objects are, of course, not radio-translucent. Their presence in the bronchial tree is readily registered on the x-ray plate. But other objects, many of them vegetable in nature, may be said to be radio-translucent, in that x-ray light rays pass through them and so leave their presence undiscovered.

Differential diagnosis is sometimes difficult. Therefore the experience of the physician is a great determining factor. Some of the mistaken diagnoses that come to mind are: spasmodic laryngitis, laryngeal diphtheria, edema of the larynx, asthma, asthmatic bronchitis, acute and chronic bronchitis, and even pneumonia.

A number of cases of opaque objects, such as bits of egg shell caught in the larynx between and parallel to the vocal cords have been ob-

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\*Read before the Chicago Laryngological and Otological Society, March 7, 1927.

served. Also cases with thin pieces of chicken scapula. Small thin flat buttons have also been the offending objects. These produce very little obstruction to breathing, but in babies the crying voice is altered; and in one case the youngster seemed unable to make an audible cry.

Some times these opaque objects are sharp fish bones stuck into the laryngeal mucosa; in other cases the object slips through the laryngeal chink and gets into the trachea. In this situation if the object is large obstruction symptoms are present, difficulty in respiration and cyanosis. Nuts, prune pits, kernels of corn, beans, peas, glass and other types of beads, and even particles of food are liable to be in situ. An aid in the diagnosis in this situation is the noise of the object sliding up and down the trachea. Jackson has called attention to this. Tracheal location does not produce much variation in physical findings in the chest unless the object has been pulled more into one main bronchus than into the other. Mistakes in diagnosis have been made even in the best regulated of hospitals, as evidenced by the following case. Youngster had had access to some pistachio nuts and one of these evidently slipped into the trachea. The accident was forgotten or not noted by the parents. Child was admitted to the hospital for observation, and was around about a week. Coughing spells and occasional respiratory crises were present. Nothing much was thought of this until one afternoon the child had a sudden permanent respiratory obstruction and crisis was at hand. Tracheotomy was performed without relief to the breathing, and the child died. Post mortem revealed a pistachio nut wedged into the bifurcation so tightly as to completely obstruct air flow. This was an emergency where experience in this work would have helped.

When round objects are inspired which are small enough to slide into one main bronchus or the other they usually come to rest in the lowest possible point. In this case physical findings and symptoms will be one-sided. If the object is of a nature to swell it will ultimately shut off the entrance of air into the main bronchus. The breath sounds will be absent, and if the object remains long enough the lung will collapse. I have seen cases of lung collapse which were also due to an excessive amount of thick mucous caused by the presence of peanut particles in the bronchi. There have been other

cases in which I am sure that the thick gelatinous-like content of a chronically infected antrum of Highmore was inspired during an operative anesthetic, and obstructed a main bronchus.

Blood clot following operations on the nose and throat could also be inspired and close off part of the bronchial tree. I have seen two such cases.

If the inspired object just about fits into a terminal lobe bronchus it will shut off the air entering a lobe. This is common in the lower lobe bronchi.

I have had it proved that a careful history is important because in giving it the statement of the accident usually comes out. The individual has usually been perfectly well up to a certain time. Chest x-ray as we have seen cannot in cases of opaque objects give much information, and one should not, therefore, be misled by the absence of x-ray evidence. Diagnostic bronchoscopy, however, usually aids in the diagnosis and cure of the individual. .

A few recent illustrative cases will bring out vividly some of the points.

Case I. A youngster about four years old had been seized with a sudden choking spell while feeding the chickens corn. She ran to her mother in her difficulty and was rather cyanosed at the time. Cough and cyanosis subsided, but within twenty-four hours spasmodic cough commenced. Cough became 'productive and during a period of three weeks several physicians examined her and x-ray pictures were taken. At last the possibility of something in the bronchus was thought of and she was sent in for examination. The prominent thing in the history was that the mother said "she was perfectly well until that day, and she was shelling an ear of corn to feed to the chickens. Since then she has been sick with a cough and has lost a good deal of weight." Physical examination of the chest revealed moist rales limited to the right chest. Bronchoscopic examination revealed a white dent kernel of corn in the right main bronchus. This was removed with forceps, and child made a good operative recovery. Letter two months subsequent from child's mother stated that her daughter made a prompt permanent recovery and regained all her lost weight.

Case II. Boy about three years old, while eating a luncheon consisting of a piece of bread, one pickle and small amount of meat, suddenly strangled, and after a severe fit of coughing seemed to be relieved of his tracheal obstruction. The next day an occasional cough developed. Pediatrician was called in, who suggested x-ray examination. This was deemed negative. Youngster was under observation for about two weeks as he still had his chest upset. Consultation with a laryngologist who had had a good deal of experience resulted in the diagnosis of foreign body in



the right main bronchus. He was sent in to me for bronchoscopic observation. The morning he landed in Chicago he broke out with a measles rash and we had to send him to a contagious hospital. I saw him about every day until his convalescence, and one day I discovered that the attending physician was looking upon this boy's chest condition as a measles bronchitis. About the time of dismissal from the hospital he sprang a rather high temperature and a foul smelling productive cough. An immediate bronchoscopical examination revealed a small hard object in the right bronchus. On removal this proved to be a piece of bone. Aspiration of a large amount of foul mucopurulent secretion was done at the same time. One dose of neo-arsphenamin cleared up the odor, and the lad made a rather rapid recovery.

Another case of aspiration of a kernel of corn was first treated as a laryngeal diphtheria with a rather large dose of antitoxin. Youngster had a rather severe serum reaction with quite a little laryngeal edema. Removal of the offending object helped some in the relief of the youngster's breathing. Laryngeal and tracheal swelling became more pronounced, and the house surgeon who had had a good contagious service intubated, and carried youngster along for thirty-six hours then he extubated but the youngster could not carry on without the tube. I did a low tracheotomy with marked relief.

In conclusion, adults, young children and infants especially are prone to put things into their mouths. In the vast majority of cases this has no ill effects, but occasionally the blast of inspired air carries the object into the air passages. The accident with its accompanying symptoms of cough, difficulty in breathing, sometimes transient cyanosis are noted by the individual and attendants, and should never be passed over lightly by the attending physician.

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## THE NURSING SITUATION A NATIONAL PROBLEM\*

W. F. GRINSTEAD, M. D.  
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Mr. Toastmaster:

When I met our indefatigable secretary, Dr. Camp, down at Washington, D. C., week before last, at the A. M. A. convention, he fed me up in advance on the President's banquet to be staged at Moline this evening. My mind immediately reverted to the subject of my Presidential address at Springfield in 1921. When I got home I looked up a reprint from the

ILLINOIS MEDICAL JOURNAL to freshen my memory of what the burden or backbone of that address was based upon. I found it was the nursing situation. Now we are six years away from that occasion and the nursing situation still looms big in the profession and in the hospitals. There is no doubt but that the nurses have organized strongly to control the hospitals and to enforce their fee bill. Now we have to have nurses, we have to stand by them and we must work out this problem in a spirit of fairness. While the nurse is tremendously close to the doctor, the patient must always have his first consideration. There would be no demand for nurses, doctors nor hospitals if there were no patients. In our State Journal in the last few months, there has been much good practical work reported in an attempt to solve this problem. We are not worried about the rich patient. We are not worried about the very poor patient. The very best hospital and medical service are available to them; but it is the great middle class, the best people in the world, which we are concerned about and must protect.

I believe it will interest some of the audience and not bore the remainder of it if I quote a brief excerpt from my Presidential address which follows:

### THE NURSING SITUATION

The Doctor's best friend and the patient's *next* best friend is his nurse. . . .

Several years ago I determined to saddle upon myself the self-imposed task of attempting to organize a training school for nurses in a hospital of about 75 beds at that time; but now building for a capacity of 115 beds in a city of about 15,000 people. . . .

I found I had an up-hill pull. Our only hospital open to all classes and occupations of people was owned and operated by an order of Sisters who were faithfully doing the very best they knew but not one of them had ever seen a training school for nurses and, therefore, not profoundly impressed with the advantages of a training school education for nurses. I made practically no progress for a few years. Finally I went down to New York for some post graduate work and sought the acquaintance of an unusually capable superintendent of a large training school for nurses who was good enough to sacrifice much of her valuable time in telling and showing me the salient features of the practical operation of a training school for nurses. Following these conferences I sent her to the book stores to select a full set of books on all the branches taught in the best training schools. These

\*Read by Title at Past Presidents' Banquet, Illinois State Medical Society, Moline, Ill., June 1, 1927.

were boxed and shipped at my expense to St. Mary's hospital, Cairo, Ill. When they were opened up our Sisters read them eagerly and were soon co-operating with me enthusiastically in the organization of a training school for nurses which is now an established, going, successful school.

This experience with the added exigencies of nursing created by the world's war have firmly impressed some lessons upon me that I hope to see worked out practically in solving the nursing problem.

Not only the medical profession but the lay public have been familiar with the scarcity of competent nurses and their fees for service that placed them beyond the reach of people of moderate means. Even some of our hospitals have been almost begging for nurses. The situation has grown intolerable and a remedy must be found. Let me give you an example from my personal observation. Some young people, married less than two years, were on the anxious seat over the prospect of their first baby. Like many young married people they were not abundantly financed but were determined to draw liberally upon their small bank account, or even their credit, for the safety of a trained nurse. They appealed to me to assist them in securing this service. On the afternoon of the same day of the appeal, I chanced to see three trained nurses having a little group conference. I interrupted them to lodge the above appeal with them. One of them, acting as spokeswoman, named a price that surprised, not to say provoked me. A few days later I was supplied with a fee bill that had been adopted by these young women that announced \$60 per week for obstetric nursing. Now, candidly, how many families have you gentlemen on your list, in general practice, who can afford to add this to the other expenses incident to the arrival of a new baby? Now it just happened that my colleagues and myself had donated our service in helping to educate these young women who had been admitted from families of middle class people, who are the best in the world, and whose parents had been able to give them a high school education. I don't need to tell you about the talk they put up in justification. It is the old story of human nature in humanity. No class of people is more popular with me than the trained nurse and it really distresses me to see them put themselves out of business, as they surely do, by such uncharitable methods.

Some of them are now heaping anathemas upon me because I pointed out their error and aligned myself on the side of the sick and injured and with our good women who assume the noble duties and responsibilities of motherhood.

We have all noticed the modern tendency of organized nursing toward a nursing aristocracy. . . .

At our training school many fine young women have inquired about the terms of admission, who had finished grammar school. They were turned away because we would not be allowed on the ap-

proved list if we accepted them. We wanted to be respectable. We wanted to measure up to the standard that had been pointed out to us. I believe they ought to be admitted. I know we can make splendid nurses out of them. I know we very much need them.

They may not have had lessons in elocution. They may not render eloquent readings, with thrills, for the entertainment of the sick heiress. They may not have had a course in art and therefore not qualified to produce comic drawings for the amusement of sick children; but they will go to the kitchen and prepare their food properly; and they will relieve the sick child and the sick heiress of the vexatious delay in summoning an orderly or pupil nurse to enter or exeunt a commode. If she has good common sense and the enthusiasm to make good in her work, she can be trained to render satisfactory service to doctor and patient. Moreover, she can qualify in two years in a properly equipped and well appointed training school. After she has qualified and has been authorized to enter upon her work, if she decides to specialize in administrative nursing, in obstetric, pediatric or surgical nursing, let her take a post-graduate course of training for that purpose.

As two illustrations of how this subject still looms before the profession, permit me to quote a paragraph from one of the papers presented at the annual conference of Secretaries of State Medical Societies held at Chicago last November. This paper was presented by Dr. D. E. Sullivan of Concord, New Hampshire, and follows:

"The physician's duty to the patient does not end in dressing wounds, writing prescriptions and making professional visits to examine and apply proper remedies, for in the hours between visitations much intelligent care and action is required. This brings one up to the nursing of those in his charge, and in the recognition of the present day trend of withdrawal of so many registered nurses from bedside work to easier berths in the employ of some governmental agency or industrial corporation with shorter hours and better pay; physicians are confronted with a perplexing situation—one that gives pause. It is for this group of men and women representing the medical profession of all the states of this Union to acknowledge the existing state and offer the suitable remedy. Let us physicians not only by resolutions in society meeting deplore the actual conditions but by determined effort inaugurate in the hospitals intensive training with a shortened course for practical nurses or nurses' aids, and provide for the sick a sufficient number of persons amply competent to attend to their ordinary needs for a reasonable compensation. This one accomplished deed will be of inestimable benefit in cementing the bond of union between physician and patient. The House of Delegates of the A. M. A.



at Dallas approved and urged such action; the World War was responsible for the same thought in all sections of the country at that time but little if any efforts have been made to put the plan into effect."

The second illustration you will read in the Presidential address of Dr. Jabez North Jackson before an audience of 6,800 people at Arcadia Hall, Washington, D. C., on the evening of May 17, 1927; 4,000 more people were turned away from this auditorium for lack of room. The doctors and their wives and the laity in Washington were keen to hear the address of the president of the greatest medical society in the world and of the president of the United States.

Referring to the nursing situation in his address Dr. Jackson spoke as follows:

"But what of the situation of that large and worthy class, sometimes called the middleman, oft-times the finest of God's creatures? A young man of splendid character has completed an expensive education to make him a worthy citizen for a life of valuable service. He has married a fine young woman; maybe my daughter, maybe yours. Perhaps they have been blessed with a splendid child, or possibly two. This young man may some day be a millionaire. Today as an apprentice he receives only a modest salary. With it through much prudent thought and oft-times denial they are starting a happy and promising family and home. When the necessary monthly bills are paid, however, the bank balance shows little or nothing. The wife is stricken with an attack of acute appendicitis and operation is required. Her case is a serious one and the services of a skilled nurse are required—in this day of 'labor hours' in nursing, possibly two, maybe three, each at \$8 a day. She recovers and he is happy. But when he calls at the office for his bill and then consults his bank balance he finds he is left hopelessly in debt for a long time to come. He would not accept charity branded as such. He is a man. This circumstance is not due to over-charge on the part of the hospital. It is not due to the expense of medical service. His surgeon waits—gladly and without pressing. He may decline to present a bill at all. It is no criticism of any one. But the problem is there."

In conclusion I beg to suggest, even to urge, every doctor and every nurse in Illinois to read the masterly address of that eminent physician and author, Dr. Hobart Amory Hare of Philadelphia, before the graduating class of the training school of Lankinau Hospital. It bristles with truth in polite but strong language.

You will find it in the March number, 1927, of ILLINOIS MEDICAL JOURNAL. Page 175.

## SURGERY OF THE COLON\*

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CHICAGO

Radical surgery of the colon has such a high mortality that it should be advised only when very necessary. By a thorough preliminary preparation of the patient, by performing certain operations in stages, and by a closely watched postoperative management this mortality can be kept down. There is also a wide difference in the mortality following operations for benign and that for malignant diseases. The cecum and the sigmoid are two of the most mobile portions of the digestive tract, and are responsible for many disturbances often referable to the upper bowel. A large movable cecum, using the appendix as a suspensory ligament, causes reflex symptoms often mistaken for gastric ulcer or chronic appendicitis. A long meso-sigmoid may act similarly.

*Fixation Operations.* Bean<sup>1</sup>, who has studied racial types, divides human beings structurally into 1. the thin epithelial, hyper-ontomorph type with a long, vertical stomach, short small intestines, and a long, large intestine, and 2. the robust connective tissue type, meso-ontomorph with a large transverse stomach and a small intestine and short large intestine. He believes each type is prone to particular diseases which occurs only rarely in the other type.

Stockard<sup>2</sup> holds that the one group differs from the other because of an early post-natal development under a different complex of the internal secretions. The hyper-ontomorph child has a high physiological thyroid, is mentally precocious, physically frail and subject early to alimentary disease. Usually has a long narrow chest and a very active nervous system. The meso-ontomorph child has a low active thyroid, grows large in size, particularly in width, and has good digestion and metabolism. A little study of these types demonstrates the futility of fixing certain movable portions of the digestive tract into conceived anatomical locations.

*Ileocecal Insufficiency.* The ileocecal opening is not a valve but a sphincter muscle which contracts upon stimulation of the superior splanchnic nerves; and its excitor cells are situated in the superior mesenteric ganglion. If the ileocecal insufficiency is due, as it is in most

\*Read before the Chicago Medical Society, March 30, 1927.

cases, to a lack of sympathetic control, or perhaps suprarenal insufficiency, then no mechanical device known to surgery can avail. An inflamed appendix or adhesions situated close to the ileocecal sphincter, interfering with its proper contraction may cause loss of tone. Surgical removal of the appendix or adhesions may allow the muscle to functionate properly and return to a normal state.

*Appendiceal Fecal Fistula.* Deaver<sup>3</sup> reported 4,063 cases of appendicitis with 200 fecal fistulae resulting of which 74 (37 per cent.) healed spontaneously, 97 (48.5 per cent.) were repaired surgically, and 29 (14.5 per cent.) left the hospital without operation. Of those repaired 60 per cent. were closed by inversion of the fistulous opening with a purse string of linen suture, reinforced by an additional suture line. Twenty-five per cent. required resection of the bowel varying from a small portion of the cecum to more than a foot of the terminal ileum with the cecum and ascending colon; 15 per cent. showed such doubtful regenerative power that ileocolostomy was performed.

*Obstinate Constipation*, with intestinal intoxication, can be so much benefited through medical management of diet, exercise, drinking a large amount of fluid and the use of mineral oil and agar agar that the advisability of surgical treatment here is doubtful except for patients badly handicapped and unable to attend to their usual duties.

Much contention arises as to which portion of the colon is responsible for this stasis, the right half of the colon and the rectosigmoid bowel dividing the responsibility. Roentgenograms of these cases usually show a prolapsed transverse colon with a low lying cecum and a redundant sigmoid loop and these conditions are found at operation.

Good results are obtained by ileosigmoidostomy, but in doing this operation the ileum must be completely divided at the site of the ileosigmoidostomy and both ends closed. The sigmoid is also divided and its proximal end (the distal end of the isolated portion of the colon) is brought out through the abdominal incision to allow drainage of the colon. Unless this is done gas will accumulate in the colon and produce marked distention and discomfort.

The colonic fistula which results from this exclusion operation discharges a small amount

of mucus, but no feces, and is amply cared for by wearing a gauze pad to protect the clothing. This operation is much preferable to a colostomy.

*Hirschprung's Disease.* Megacolon seems to begin in the sigmoid and if not carefully managed dilates and hypertrophies the bowel upward through the colon. In young children appendicostomy or cecostomy may be done for the purpose of irrigating the bowel. In older children a redundant sigmoid with a mesentery a foot long may be found and may be resected after the method of Mikulicz. By resecting the peritoneum of the mesosigmoid the bowel may be lifted out of the abdomen. The two limbs of the bowel are sutured together and the abdominal wall is then closed about the protruding gut. The bowel is opened on the second day and is cut flush with the skin on the tenth day. Clamps are then applied to cut down the partition between the two limbs and the stoma is closed later if needed.

In older patients in whom the entire colon is usually involved and where fecal balls 3 to 5 inches in diameter have been found, a low ileosigmoidostomy with exclusion of the colon from the alimentary canal is better.

The preparation of these patients for operation is important. Several days may be required to break up the impaction at the recto sigmoid junction. After the obstruction is relieved 10 days or two weeks may be required to completely empty the colon. During this treatment the patient is kept on liquids.

*Actinomycosis.* Actinomycosis in the colon occurs in two forms.

1. The acute form which closely resembles appendicitis.

2. The chronic form which is insidious in onset with slight, vague pains in the right lower abdomen. Later the tumor is recognized.

In both types there is a marked loss of weight and strength and a very severe anemia. The skin over the growth becomes bluish red, breaks open into suppurating points and becomes riddled with fistulae. Constipation rather than diarrhea is the rule.

*Treatment.* It is usually impossible to remove all the diseased tissue at operation because of the diffuse infiltration. It is best to drain the abscesses, curette the sinuses and ir-



rigate. Give internally large doses of potassium iodide and apply x-ray locally.

*Tuberculosis of the Bowel.* Tenwick & Dodwell<sup>4</sup> report 80 per cent. of their cases of intestinal tuberculosis as involving the ileocecal region. The disease may be localized or disseminated and occurs in two types, the ulcerative, which simulates actinomycosis, and the hypertrophic form which resembles cancer or occasionally appendicitis.

The more frequent form is the hypertrophic and is characterized by anorexia, digestive derangement, pain in the right iliac fossa, varying diarrhea and constipation, and occasional attacks of partial or complete obstruction. The tumor is hard, somewhat nodular and by palpation is indistinguishable from cancer. Tuberculosis more frequently occurs at an earlier age.

*Treatment.* The whole area should be removed and the bowel closed with a side to side or end to side anastomosis.

*Chronic Ulcerative Colitis.* This condition, the etiology of which is not definite, may continue for several years, the patient gradually losing weight and strength and becoming anemic, until finally death occurs. It does not respond to medical management. In the late stages perforation of an ulcer and fatal peritonitis may occur or septicemia. The diagnosis is made from the history, the proctoscopic findings and a roentgenogram examination.

*Treatment.* A permanent ileostomy is the most satisfactory procedure. Sistrunk<sup>5</sup> cautions against exploring the diseased bowel after opening the abdomen as the organisms in the bowel wall are so virulent that trauma of any sort, even an exploration, tends to produce a fatal peritonitis. Under local anesthesia a low right rectus incision locates the lower ileum. This is cut across at a point 5 or 6 inches above the ileocecal valve. A clamp is left on the distal end of the ileum (nearest the ileocecal valve) and a tube is sutured into the proximal end. The stoma must be permanent because the bowel in healing contracts and its lumen becomes strictured so that it cannot be restored to function. In a few instances purulent material accumulates between the strictured areas of the bowel and produces constitutional reaction which requires colectomy. Resection of the bowel during the active stages of the disease is followed by a very high mortality.

*Diverticulitis.* Diverticulitis may occur in any portion of the intestinal tract but is rarely seen except in the sigmoid. Most cases are without symptoms and the recognition of such during roentgenologic examinations is without importance. Occasionally a diverticulum in the sigmoid becomes inflamed and produces serious complications which are similar to those of appendicitis but are on the left side. Bloody mucus is also voided per annus.

*Treatment.* Acute diverticulitis is best handled expectantly with rest in bed and the use of ice bags, withholding surgery at this stage.

Occasionally an abscess develops and requires drainage or it may rupture into the bladder thus producing a vesico-sigmoid fistula.

Recurrent attacks are the rule and should be guarded against by carefully regulating the bowels and diet and by avoiding strenuous exercise.

Resection for diverticulitis has a high mortality. In some cases a Mikulicz type of operation may be performed, but if marked inflammatory reaction of the tissues is present this is dangerous. A temporary colostomy with resection of the bowel several months later is the safest course and afterward the colostomy may be closed.

*Cancer.* Cancer is the most frequent indication for radical surgical treatment of the colon. In Hoffman's<sup>6</sup> statistics 7.7 per cent. of the male and 11.3 per cent. of the female deaths are due to cancer of the peritoneum, intestines and rectum. Deaver quotes the reports of the Pathological Institute of Vienna of 343 intestinal carcinomas which came to autopsy, 164 were in the colon, 162 in the rectum, 7 were in the duodenum and 11 were in the ileum. At the Mayo clinic from January 2, 1915, to December, 1922, there were 359 cases of cancer of the colon; of which 71 were in the cecum, 44 in the ascending colon, 28 in the hepatic flexure, 50 in the transverse colon, 23 in the splenic flexure, 39 in the descending colon, and 104 in the sigmoid.

Azeman, Maydl, Mueller & Nothnagle<sup>7</sup> reported 511 deaths from carcinoma of the large bowel of which 35 were in the cecum (6.8 per cent.); 131 in the colon (25.6 per cent.); 83 in the sigmoid (16.2 per cent.) and 262 in the rectum (51.2 per cent.).

Estimation of the number of patients presenting themselves for treatment who are suitable

for radical or palliative operation is not so easily learned from statistics because of the wide variation of opinions of different surgeons as to the methods of procedure and the same surgeons differ at times. Thus the Mayo<sup>8</sup> clinic reports of 1910-1913 showed 51 per cent. of the cases of cancer of the rectum were submitted to radical operation and in their report of 1913-1915, 71.8 per cent. were deemed suitable for radical operation.

The suitability of intestinal cancer for radical operation depends:

1. Upon the location of the neoplasm.
2. The extent of the growth and its metastasis.
3. Upon any associated local or systemic disease.

Obesity is here considered a disease because obese patients show a higher mortality.

*Contraindications to Radical Operation.* 1. Involvement of the lymph glands at a distance from the lesion. But all enlarged glands are not necessarily invaded by cancer because the infection, which invariably accompanies cancer, may be the cause of glandular enlargement.

Jameson and Dobson<sup>9</sup> have carefully worked out the lymphatic drainage of the colon and they arrange these glands into four groups.

1. The epicolic glands, which lie on the bowel wall and drain into the next two groups.
2. The paracolic glands, which lie in the mesentery along the vascular arches close to the gut.
3. The intermediate glands, which lie on the arterial branches between the vascular arches and the large vessels.

4. The main glands situated around the colic arteries close to their origin and drain from all of the foregoing chains.

5. Growths in the hepatic flexure and the right half of the transverse colon metastasize to glands about the pancreas and along the side of the aorta. The radical removal of cancer in this region is much more difficult and hazardous.

Colonic cancer usually develops slowly. It remains restricted to the intestinal wall for a long time. During the process of growth spread is by:

- (a) direct extension.
- (b) through the venous system.
- (c) through the lymphatic system.

Hausman's<sup>10</sup> statistics of 112 autopsies on

cases of cancer of colon found: in 21 the disease had spread beyond the bowel and become generalized; in 36 only the primary lymphatic glands were enlarged; and in 55 the disease was limited to the bowel. This emphasizes the low grade malignancy in some of these cancers, and the opportunity for surgical removal.

There is however a wide variation in the virulence of malignancy in colonic cancers according to the type of tumor. The colloid is the most malignant, the scirrhus next and the fungating type the least rapid in growth.

McGlaunan<sup>11</sup> in a series of 98 cases of cancer of the colon, found that 61 gave a history of an obstruction of some sort before operation.

Carson<sup>12</sup> in his analysis of 111 colonic cancers, found that 68, (62 per cent.) were in the iliac or pelvic colon, of which 50 per cent. were obstructed; 18 (16 per cent.) were in the cecum or ascending colon, of which 33 per cent. were obstructed; 9 (8 per cent.) were in the descending colon, of which 7 (7.7 per cent.) were obstructed; and 5 (5.4 per cent.) were in the splenic flexure, of which all were obstructed. This shows that neoplasms of the right colon are much less liable than any of the growths of the large bowel to become acutely obstructed.

*X-ray Diagnosis.* X-ray diagnosis is not dependable. Frequently the clinical diagnosis may be quite clear and the x-ray findings negative. At other times the roentgenograms will definitely show malignancy while the clinical symptoms are still vague.

*Operative Mortality.* The operative mortality is affected by

1. The virulence of the organism in the colonic contents.
2. The obstruction always present in some degree.
3. The thinness of the walls of the colon and its limited blood supply which makes healing less rapid.

4. Gaseous distention before firm agglutination of the surfaces occurs. This causes leakage to occur along the intestinal suture line and a fatal peritonitis results.

On the other hand, patients who survive operation for malignant disease of the colon, if not too extensive, have an excellent chance of remaining cured. The wide excision not only removes the growth but also the glands draining the affected bowel.



*Preoperative Preparation.* The operative mortality will be much reduced by careful preoperative preparation.

If no obstruction is present our patient receives one and a half ounces of castor oil three days prior to the operation and an enema each night from that time on.

Following the purgative the diet is liquid, such as water, tea, ginger ale, lemonade, orangeade, chocolate and sugar. No proteids are allowed. This changes the intestinal flora.

For twenty-four hours before the operation a teaspoonful of paregoric is given every 4 hours to diminish the intestinal juices and to produce constipation.

At operation the colon is found empty or containing only very small amounts of fecal material and there is a minimum of soiling of the operative wound.

If there is evidence of partial obstruction the purge is withheld on account of the danger of precipitating acute obstruction, and instead our patient is given an ounce of mineral oil three times daily and an enema night and morning for five days before the operation. During this time he is given the low carbohydrate diet allowed patients without obstruction and is also given the paregoric every 4 hours for twenty-four hours before the operation.

If acute obstruction is present the preoperative preparation must be omitted and immediate operation for the relief of the obstruction attempted.

*Colostomy.* One of the fundamental surgical principles involved in the treatment of infections of the colon is that when an infection cannot be relieved by medical treatment it can sometimes be cured by placing a stoma cephalad to the infection. There is a widespread misconception as to the inconveniences caused by a stoma. Very seldom do our patients use any other mechanical appliance than a piece of gauze to protect against accidents.

The sympathetic nerve supply to the bowel is somewhat segmental, and each portion of the gut has a potential sphincter control; so that when a segment becomes terminal by operative procedure, a functional change gradually occurs, and there is a slowing of the current as it approaches the end. This change permits the individual with a stoma to reassume control. In cancer, a stoma is of value only when used at

the earliest possible moment after the tumor is discovered to be inoperable. It is not of value when the patient is moribund.

Frequently, after an artificial anus has been made, a tumor previously supposed to be inoperable, may be successfully removed on account of its diminution in size and the great improvement in the condition of the patient.

*Types of Operation for Cancer.* The type of operation selected in dealing with cancer of the colon depends upon the degree of obstruction existing and the amount of infection present. Radical operations should never be performed in cases with acute obstruction because such procedures have a very high mortality. In such cases the bowels are usually filled with liquid material teeming with virulent organisms, and it is almost impossible to perform a radical operation without considerable soiling. Infection and edema will be found in the bowel for a considerable distance beyond the growth; these tend to prevent satisfactory healing, and operation under such circumstances is usually followed by fatal peritonitis. The mortality following radical operation is enough higher in even partial obstruction cases than in nonobstructed cases to justify a preliminary operation whenever possible.

The handling of infected growths and trauma to the surrounding tissues in cases of acute obstruction also greatly increases the operative risk.

Occasionally cancers are met without obstruction and with only slight inflammatory reaction surrounding the growth. Nothing is to be gained by a two-stage operation in such cases, and therefore, a preliminary section with an enterostomy at the same time to prevent gaseous distention after the operation may be performed. When obstruction or marked infection is present short-circulating operation or a colostomy should be performed first to relieve the obstruction and the resection done two or three weeks later. After this time the inflammation surrounding the growth will often be found to have subsided considerably.

In cancer of the right colon in which there is no obstruction, a one-stage operation for resection of the diseased area with a lateral anastomosis between the lower ileum and the distal colon is the operation of choice. In such cases an enterostomy with a small catheter should be made

in the lower ileum. If obstruction is present, the best results are obtained by making an ileocolostomy between the lower ileum and the transverse colon first, and by resecting the diseased area two or three weeks later. At the time of the first operation the ileum should be cut across, distal to the anastomosis in order to divert the passage of feces through the diseased lumen and thus place this portion as nearly as possible at rest.

Primary resection for cancer of the transverse colon carries a high mortality; it may be more safely performed by making a temporary cecostomy at the same time. On account of the mobility of the transverse colon it is often possible to remove cancer in this portion of the bowel by a Mikulicz type of operation. The first and second stages of the operation may be performed at the same time. A cecostomy should however always be performed in order to prevent postoperative gaseous distention. The Mikulicz type of operation is difficult to perform in the descending colon because of the fixation of this portion of the bowel. If no obstruction is present a primary resection with a temporary enterostomy may be performed. If there is an obstruction a colo-sigmoidostomy, followed later by a resection of the affected area, is probably the safest course. The sigmoid loop is usually quite mobile and a Mikulicz type of operation can ordinarily be satisfactorily performed for cancer in this region.

The neoplasms of the recto-sigmoid in which from 2.5 cm. to 3.5 cm. of the rectum above the peritoneal fold in Douglas pouch is free and unaffected, a primary resection may be performed if no obstruction is present, and an end to end anastomosis made over a tube, as suggested by Balfour. It is safer here also to do a preliminary colostomy, and later do a resection and still later close the stoma.

In unobstructed cancers of the rectum at a point below the peritoneal reflection over Douglas pouch it is best to make a preliminary colostomy and two weeks later remove the entire rectum, by a posterior resection.

*Post Operative Management.* The most urgent postoperative indication following operation on the colon is to prevent gaseous distention and peristalsis long enough to assure satisfactory union. Our patient's reaction to the operation modifies somewhat our course during the first

few days, but it is usually well to withhold everything by mouth for the first four to six days, and during this time to sustain him with subcutaneous administration of 2000 c.c., to 2500 c.c. of physiologic sodium chloride solution per day.

During the first 48 hours morphine sulphate, 1/6 gr. doses, every four hours is given. After the second day, and some time before, codein sulphate, 1/6 gr. doses, is substituted because some patients become quite irrational under the continued use of morphin. The codein is continued until the end of the fourth day. This abstinence period depends largely on the postoperative reaction of our patient. If the temperature and pulse remain normal he is allowed to take water by mouth after the fourth day and the subcutaneous injections are discontinued. Water alone is given by mouth the first day and fruit juices are added for the next two days. If a sharp postoperative reaction occurs the pulse is the best index as to when fluids should be allowed by mouth; if the pulse rate drops and remains down water may be given by mouth.

Under this treatment patients remain remarkably free from pain and gaseous distention. Its only disadvantage is the accompanying thirst which is not relieved by fluids given subcutaneously, even in large amounts, but only by stimulation of the salivary glands. Without such stimulation patients are likely to develop parotitis. Relief of thirst is most satisfactorily obtained by biting sliced lemon and rinsing the mouth frequently with cleansing mouth washes and orange juice. The preventing of gaseous distention and peristalsis which is so satisfactorily accomplished by this type of treatment, is of the utmost importance in the immediate postoperative care.

## DIAGNOSIS AND TREATMENT OF GONORRHEA IN THE FEMALE

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*Diagnosis* of gonorrhea and proper treatment in the female is often connected with great hazards. This fact may be considered an important cause for failure to reduce the incidence of the disease.

An acute gonorrhea is usually diagnosed without much difficulty, but the subacute and chronic



cases are very often overlooked. Diagnosis of gonorrhea by clinical methods is not possible in the prostitute or in masturbators and the necessity for laboratory tests is indisputable.

There are three different methods in diagnosing gonorrheal infection in the laboratory. The oldest, simplest and most common method is that of microscopically examining a pus smear from the discharge with methylene blue and with a Gram stain. The determining factor for the success of this method is the technique employed in obtaining a specimen. A vaginal smear is of no value. The only proper way to obtain a smear is from the external os of the cervix after the plug of mucus has been removed, which is usually found in that region in various infections. A speculum must always be employed to obtain a specimen in the proper way. This examination, if negative in result, should be repeated six to eight times, at intervals of eight to ten days; all treatment should be stopped during that time. A urethral smear must be taken from every case. The technique for securing material is as follows: A sterilized, tightly wound wood applicator is used with which a complete twist in the urethra is made. From this swab a thin smear is made on a microscopic slide. There also should always be a slide made from the folds of the rectum since it is not at all infrequent to find gonorrhea lodging there.

The second method is by making cultures of the offending organism. The gonococcus is not easily cultivated; it is often overgrown by the more hardy bacteria. The preparation of media and cultivation of the organism requires knowledge and experience of an expert and is subject to uncertainty of results. This method is seldom used.

The third method is that by complement fixation in using a mixed gonorrheal antigen which can be purchased at various biological supply houses. A few laboratories have reported good results with this method but according to our findings and to results obtained from two different laboratories it has been our experience that the complement fixation test is only of relative value.

A female patient coming under the care of a physician, with a history of present or previous clinical symptoms of a gonorrheal infection should be subjected to prolonged observation.

Repeated laboratory examinations in making the diagnosis and during treatment are necessary. In Illinois six consecutive negative pus smears from the cervix or urethra, taken at intervals of from five to ten days, are required to consider a patient as cured. At the Geneva School for delinquent girls twelve negative smears are obtained before the patient is released from treatment.

The following chart indicates the variety of laboratory findings in cases of subacute and chronic gonorrhea, which are of usual occurrence:

CHART 1. CONSOLIDATED LABORATORY FINDINGS

EXTENDING OVER A PERIOD OF AT LEAST SIX MONTHS

Name of patient	History	Complement Fixation		Smears		Dfl.
		Neg.	Pos.	Neg.	Pos.	
L. C. ....	Positive	1	2	1	5	1
A. B. C. ....	Positive	4	..	2	3	2
M. C. ....	Positive	3	..	11	..	..
E. D. ....	Positive	..	3	..	4	..
E. H. ....	Negative	4	..	12	1	4
B. A. ....	Negative	4	..	9	1	1
E. A. ....	Negative	4	..	1	1	..
C. B. ....	Negative	2	2	2	3	..
E. B. ....	Negative	4	..	5	..	..
R. B. ....	Negative	4	..	10	..	..
H. B. ....	Negative	4	..	4	2	..
L. C. ....	Negative	..	2	..	3	..
G. C. ....	Negative	2	2	12	..	2
S. C. ....	Negative	4	..	6	..	..
L. O. ....	Negative	4	..	6	4	..
F. D. ....	Negative	4	..	12	7	..
B. G. ....	Negative	4	..	7	1	..
T. G. ....	Negative	4	..	7	..	..
R. H. ....	Negative	3	1	5	..	..
G. J. ....	Negative	4	..	7	1	..
V. L. ....	Negative	4	..	9	9	..
J. L. ....	Negative	5	..	12	1	..
L. M. ....	Negative	3	1	8	4	..
E. N. ....	Negative	4	..	12	..	..
M. O. ....	Negative	2	2	10	..	..

Pos.—Positive.  
Neg.—Negative.  
Dfl.—Doubtful.

CHART 2

THESE PATIENTS WERE UNDER OBSERVATION AND TREATMENT FOR MANY MONTHS

Name of patient	History	Complement Fixation		Smears
		Date	Result	
D. B. ....	Positive	2/21	Neg.	Neg.
		3/14	Pos.	Neg.
		5/1	Pos.	Pos.
		8/7	Neg.	Neg.
		12/3	Neg.	Neg.
		2/4	Pos.	Pos.
		4/8	Neg.	Pos.
		5/7	Neg.	Pos.
		7/22	Neg.	Neg. (2 smears)
		12/17	Neg.	Neg. (2 smears)
		2/4	Neg.	Neg. (2 smears)
		2/24	Neg.	Pos.
L. M. B. ....	Positive	4/14	Neg.	Neg. (3 smears)
		6/19	Neg.	Neg. (3 smears)
		10/5	Neg.	Pos. (2 smears)
		12/10	Neg.	Neg. (6 smears)
		3/25	Neg.	Pos.
		7/22	Neg.	Dfl.
L. D. ....	Positive	12/17	Neg.	Pos. (2 smears)
		2/4	Neg.	Neg. (5 smears)
		6/15	Neg.	Neg. (2 smears)
		12/7	Neg.	Pos. (3 smears)
		1/5	Neg.	Neg.
		2/17	Neg.	Neg.
H. D. ....	Positive	3/21	Neg.	Neg.
		5/13	Neg.	Neg.
		10/16	Neg.	Pos. (2 smears)
		1/14	Neg.	Pos. (2 smears)
		4/30	Neg.	Neg. (7 smears)

Name of patient	History	Complement Fixation		Date	Result	Smears
H. D. ....	Positive			6/11	Neg.	Pos. (2 smears)
				9/11	Neg.	Pos. (3 smears)
				10/16	Neg.	Pos. (2 smears)
				1/21	Neg.	Neg. (4 smears)
				3/17	Neg.	Neg. (4 smears)
M. D. ....	Positive			12/ 7	Pos.	Pos.
				3/28	Pos.	Pos.
				7/ 8	Neg.	Neg.
				8/17	Neg.	Neg.
				12/30	Neg.	Neg. (4 smears)
M. M. ....	Positive			4/ 7	Pos.	Pos. (4 smears)
M. Mc. ....	Positive			1/21	Pos.	Dfl.
				2/11	Pos.	Pos.
				4/22	Neg.	Neg. (3 smears)
				5/28	Neg.	Pos.

Chart two gives an illustration of the necessity for prolonged observation and treatment. It shows the usual laboratory findings in patients under treatment. A few negative smears and a negative complement fixation report are very common after a short course of treatment but a discharge often reappears within one to three months and the pus smears again become positive.

TREATMENT

Much has been written of the treatment of gonorrhea in the male, but there have been such unsatisfactory results in the treatment in the female that not a great deal is written about it. We know that gonorrhea is a self-limited disease, but often when one is least aware an old salpingitis will arise and in these cases nothing but surgery is indicated. Many women have been infected, had none of the acute symptoms and have been none the wiser of having harbored a Neisserian infection many years. There are so many women having vaginal discharge that oft-times little importance is attached to it by the individual. It is well known that the cervix is the most frequently attacked by gonorrhea in the married or parous woman, because of the peculiar glands and lymphatic arrangement in the cervix and if this infection is not carried up into the endometrium and tubes there is always a chance of cleaning up these cases. When a case comes to us where the Bartholin or other glands in the external genitals are involved, they are opened and drained if they are suppurating and nothing but sitz baths and pitcher douches allowed. These douches are given every three hours and sitz baths three times a day. After all evidence of external infection has passed these patients have frequent smears made of cervical, urethral and anal folds. If they return positive they receive long, slow douches, the water having very little force.

We use about four gallons of water, 110 degree F. with potassium-permanganate to color the water a deep purple. After the douche we insert a speculum into the vagina and remove any mucus plugs which may be left hanging in the cervix and twist a tightly wound wood applicator medicated with 15 per cent silloid into the cervical canal and allow this applicator to remain in site while we finish the treatment. It is not generally known that often in the female there is a stricture in the urethra. It is well to pass a small olive bougie into the urethra in every case and if the stricture hugs the shoulder of the bougie you can be certain that there is some contraction there. A few drops of silloid 15 per cent instilled in the urethra can only bring good results. Then we take a fluff applicator, this is done by winding the wood applicator loose, saturate this well with silloid, and spread the folds in the anus and paint the entire space between the vagina and anus. Last after removing applicator from cervix, insert a suppository which has a cocoa butter base and one which carries antiseptics into the cervix. A piece of gauze is then taken about two inches wide and half a yard long, saturated with silloid and tucked up and around the cervix. The patient keeps this dressing for twenty-four hours; then the gauze is renewed.

This treatment has been found successful with us.

State-Psychopathic Institute and State School for Girls.

THE LETHARGY OF THE MEDICAL PROFESSION TOWARD MEDICAL LEGISLATION

HON. THOS. L. FEKETE, JR.  
Representative in the 55th General Assembly  
EAST ST. LOUIS

It is fair to presume, that because of their education, character and general intelligence, the members of the medical profession—speaking of those who practice that profession in all of its branches—ought to be the outstanding figures in their respective communities in society and politics. Their daily personal contact with the citizenry makes them a tremendous potentiality for good and an influence that is incalculable. The confidence inspired by the practitioner in



the citizen who submits that which is nearest and dearest to him, his own well-being or that of those of his loved ones, is in itself an evidence of the trust and faith that is placed in him. It is not a far step from the individual's physical well-being to that of his political and social condition. Psychologically, his social and political life is so affected by his physical condition that the line of demarcation is almost indistinct; that physical condition may be the very glass through which he views his political and social condition and whether or not his vision is pessimistic or optimistic depends much upon the medical practitioner.

It necessarily follows that when the citizen exercises his right of franchise, he will express it according to the lights which he has and the influence that has made its impression upon him. In exercising that right of franchise, he selects for us those who will enact the rules and guides of our conduct, those who will put into force and effect such rules and those who shall interpret those rules. Thus, is it illogical to presume that the medical practitioner has much to do with the making of our government? And, whether it is good or bad,—it is no better or worse than we deserve—the share of responsibility of it cannot be shifted by the medical profession.

With that profession as well as others, there has been a tendency in the past to resent regulation—that is characteristically American. "That people is best governed which is least governed" is an idea that is inbred in Americans. But the complexity of our lives and our daily conduct is so related to that of our fellow-man that for the benefit of the many, the individual must sacrifice some of his personal liberty. He who is suffering is most susceptible to promises of relief and most easily victimized. For the protection of the public from the practices of charlatans and mountebanks, it has become necessary for the State to say who shall practice the profession of treating human ailments. Every school of treatment has been most interested in its particular scheme of ministrations; some are more interested in the pecuniary results than the well-being of its patients and the learning and ability of its students. The State is not particularly interested in the form of treatment; that is a matter of concern to the individual; but the State is interested in putting

its stamp of approval upon the ability of the applicant for a license to diagnose ailments according to the most modern methods of diagnosis. It evidences its interest by legislation.

Now what is the medical profession doing toward beneficial medical legislation? What has it done in the past? Outside of the interest in its particular school has it shown any interest in the general welfare of the public? As good citizens, the profession is obligated to take a larger interest than the selfish one for the protection of its own school. It is interested in seeing that the right men are elected to make legislation and that they are educated as to the needs of the people in this respect. Have you done that in the past? Now, candidly, has not the profession made its first move after the legislators have been elected and are considering some legislation that might give it competition? Has the interest of the public been paramount in your minds on such occasions? You have a legislative committee and, to its credit, it has functioned. But have you as individuals done your full duty? Have you interested yourselves in the election of the proper men to public office—men who have the vision, the capability and the desire to act for the public good and, after having elected them, have you given freely of your counsel and advice?

The patriotism of the medical profession is beyond question. The exemplification of that patriotism is more than vivid in our recollections of the late war; as a profession, you gave freely and more, perhaps, than any other. Your achievements on that occasion stand out more prominently than that of any other profession. Nor in time of peace have you been found wanting when epidemics of disease have threatened our people. To you alone is the credit due that we live in the most sanitary country in the world and through your unselfish service in foreign lands and for foreign people is this government recognized for its magnanimity. You are justly entitled to the unstinted gratitude of the nation.

In closing I would have you ask yourselves have you interested yourself in the election of your public officers and have you counseled them after you have elected them? If you have not, then you have been derelict in your duty. By reason of your education, your intelligence and your intimate contact with the people, it is an obligation.

# EXTERNAL EYE DISEASES OF INTEREST TO THE GENERAL PRACTITIONER\*

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It is my purpose, owing to our limited time, to take up a certain group of the commoner external diseases of the eye, and to try to show the importance of their immediate recognition when such cases present themselves.

There is no other class of disease in which the correct diagnosis should be more promptly made and proper remedial measures taken than in certain of these eye diseases.

To the medical man with no special training or experience the inflamed red eye (commonly known as pink eye) differs little in appearance. Some of the simplest diseases are easily confounded with the most serious, and my aim is to make clear the differential points in these cases, and in order that the practitioner may recognize and know with what he is dealing, and without delay furnish the proper care and treatment.

To do this with greatest clearness it is well to briefly review the circulation of the anterior portion of the eyeball.

The long posterior and anterior ciliary arteries anastomose just after the latter pierces the sclera not far back of its junction with the cornea, and these arteries supply the ciliary zone and iris.

Fine branches are given off the anterior ciliary arteries as they pass through the sclerotic. From the episcleral branches are given off the looped capillaries to the margin of the cornea. Others are given off to the anterior and post conjunctival.

The looped capillaries to the margin of the cornea are the fine vessels shown in circumcorneal or ciliary injection. The character of the injection in any given case is of some value in locating the seat of congestion.

There are two types of injection in inflammation of the eye to be differentiated.

1. *Conjunctival injection* (superficial).
  2. *Ciliary* (or deep circumcorneal) injection.
- In severe inflammatory disease of the anterior

part of the eye, the above two types of congestion are often found associated, as would be expected because of the free anastomosing of the two systems of blood vessels.

This type is known as *ciliary* and *episcleral injection*, and is seen in scleritis and glaucoma.

## DIFFERENTIAL TABLE

<i>Conjunctival Injection</i> (Superficial)	<i>Ciliary Injection</i> (Deep)
1. Derived from posterior conjunctival vessels.	1. Derived from anterior ciliary vessels.
2. Accompanies superficial diseases of conjunctiva.	2. Accompanies diseases of cornea, iris and ciliary body. (Deeper structures.)
3. More or less muco-purulent or purulent discharge.	3. Often lacrimation but no conjunctival discharge.
4. Most marked in fornix conjunctiva.	4. Most marked immediately around cornea, hence circumcorneal.
5. Fades as it approaches cornea.	5. Fades toward fornix.
6. Bright brick-red color.	6. Pink or lilac color.
7. Composed of a network of coarse, tortuous vessels, anastomose freely, and placed superficially so the meshes are easily recognized.	7. Composed of small straight vessels, placed deeply, so the individual vessels cannot be recognized easily, but are seen indistinctly as fine straight lines radiating from cornea.
8. Can be moved with the conjunctiva by pressing on lower lid.	8. Cannot be displaced by movement of the conjunctiva.

The ability to recognize these forms of injection is the clue to the diagnosis in the various inflammatory diseases, and lack of this ability often leads to some of the gravest errors in diagnosis. The earlier stages of some of the most destructive diseases, iritis, glaucoma, are often mistaken for the simplest and least harmful, acute catarrhal conjunctivitis.

These three most commonly mistaken inflammatory conditions can be best studied by a table of differential points:

## COMPLICATIONS AND SEQUELAE

1. Acute catarrhal conjunctivitis is a superficial or surface infection accompanied by *conjunctival injection* of a greater or less degree, usually lasts a few days or a week or two and clears up. It is not uncommon, however, for it to be complicated with corneal ulcer which may develop, depending upon the kind of infection present.

2. Acute iritis is a deep seated infection, accompanied by *ciliary (deep)* or *circumcorneal injection*. The ciliary body is so commonly involved along with the iris (irido-cyclitis) that some authors consider pure simple iritis rare. *Sequelae*.

It is common to see posterior synechia and pigment deposits on the anterior lens capsule.

*Exclusion* and *occlusion* of the pupil, atrophy of the iris, opacities of the vitreous, deposits upon the post capsule of lens, and cataract, are

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## ACUTE IRITIS

1. Iris swollen, dull and discolored.
2. Pupil small, gray, sluggish, irregular after use of atropin.
3. Anterior chamber of normal depth (deeper in serious form) and presents exudation.
4. Cornea transparent. May present spots on posterior surface and sensitive.
5. Ciliary (circumcorneal) injection; pink zone of fine vessels surrounding cornea and fading toward fornix.
6. Conjunctiva usually transparent.
7. Lacrimation but no discharge.
8. Tension usually normal, occasionally increased.
9. Some ciliary tenderness.
10. Pain radiating to forehead and temples, worse at night.
11. Diminution of vision.

## ACUTE CONJUNCTIVITIS

1. No change in iris.
2. Pupil normal.
3. Anterior chamber normal.
4. Cornea transparent. Sensitive.
5. Coarse meshes most pronounced in fornix and fading toward the cornea.
6. Conjunctiva reddened and opaque.
7. Mucous or muco-purulent discharge.
8. Tension normal.
9. No ciliary tenderness.
10. Discomfort and gritty feeling, but no real pain.
11. No interference with vision, except blurring caused by discharge smeared over surface of cornea.

## ACUTE GLAUCOMA

1. Iris congested, discolored, dull periphery pushed forward.
2. Pupil dilated, oval, immobile.
3. Anterior chamber shallow and aqueous sometimes turbid.
4. Cornea steamy and insensitive.
5. Ciliary and episcleral injection (also conjunctival congestion).
6. Conjunctiva congested and chemotic.
7. Lacrimation but no discharge.
8. Tension increased.
9. Ciliary tenderness.
10. Severe pain in and about eyes, with headache.
11. Marked dimness of vision.

some of the complications. In exclusion there is an annular posterior synechia, causing a loss of communication between the anterior and posterior chamber.

Aqueous secreted by the ciliary body is hemmed in; the iris is stretched and atrophied. (Iris Bombe.) This causes a pressure against the angle of the anterior chamber (Iris Angle). Adhesive inflammation may occur, resulting in glaucoma and blindness if not quickly relieved.

*Occlusion* is a total posterior synechia of the iris to the anterior surface of the lens capsule, plus a filling in of the pupillary space with exudate, resulting in a complete loss of sight.

3. *Glaucoma* occurs in two varieties: 1. *Primary*, when no other ocular disease has preceded; 2. *Secondary*, when it follows some other disease or injury of the eye. Primary glaucoma occurs in two forms: 1. Inflammatory or congestive; 2. Non-inflammatory or non-congestive, usually called *simple*. The *inflammatory* variety is divided into acute and chronic, according to the rapidity of increase of intraocular tension.

These forms are usually preceded by prodromal symptoms, such as a diminution in the acuity of vision, foggiess, slight cloudiness of center of cornea, shallowness of anterior chamber, circumcorneal injection, dilatation of pupil with sluggish reaction, a little tension and slight pain in the eye and head. These symptoms may last for a few hours and disappear, the eye becoming normal except for the lack of accommodative power.

Frequently the thought is that merely a change of glasses is required, and this being done, no further attention is given the eyes. The inevitable violent attack of the *active stage* of

glaucoma follows sooner or later. This could have been foretold and averted in competent hands, had fields of vision and tension been taken at the onset of the symptoms. In *simple chronic non-inflammatory glaucoma*, the onset is insidious, without marked external symptoms or pain. In this type the diagnosis is made by the increase of tension and the fundus picture, with the ophthalmoscope.

It is not an uncommon mistake to diagnose an acute inflammatory glaucoma as iritis or conjunctivitis, and even use atropin in such cases. This has come to my observation many times. The dilated pupil, increased tension and great pain should be sufficient to differentiate the conditions. A diagnosis of cataract from the greenish pupillary reflex has often been made, and valuable time lost for active treatment, waiting for maturity of the cataract.

I have even seen the constitutional symptoms from an acute attack, headache, nausea, vomiting, etc., mistaken for an attack of appendicitis.

Chronic simple glaucoma may be mistaken for simple optic atrophy.

1. In the latter there is no increase of tension.

2. Shallow instead of deep excavation of disc.

3. Central vision reduced and loss of peripheral color fields.

*Every complaint of the eyes* is a case for the oculist for the immediate correct diagnosis; the simplest appearing case may result most seriously. *Delays* and *mistakes* in diagnosis in this class of case alone are responsible for the loss of sight of thousands. In fact, I am convinced that the loss from this source far exceeds that of ophthalmia neonatorum.

There should be more activity on the part of organizations for conservation of sight and greater distribution of propaganda on the subject of "pink eye" as well as ophthalmia neonatorum, not only among the laity but among the *medical profession* who see these cases first, to impress upon them the importance of *accurate diagnosis* in all cases of red, inflamed (pink) eyes, and the seriousness of incorrect or delayed treatment.

## FOREIGN BODIES IN THE URINARY BLADDER

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Cases of foreign bodies in the urinary bladder are always of interest because they occur with such frequency that every practitioner may expect to meet with them. Although the literature of the subject is very extensive it consists mostly of isolated case reports; and it is rather surprising to find how few are the general reviews of the subject. In 1856 Denúce<sup>1</sup> collected 391 cases. Packard,<sup>2</sup> in 1897, collected 221 cases of foreign bodies introduced into the male bladder by the urethra. Max Hirsch<sup>3</sup> in 1903 collected 111 other cases, including 8 of his own, observed in about ten years. Manton<sup>4</sup> in 1919 stated that there were 455 titles and papers on foreign bodies in the bladder (exclusive of simple calculi) published between 1880 and 1916. The *Index Medicus* gives a yearly average of about nine or ten cases during recent years, and in the Third Series of the U. S. Surgeon-General's Catalogue, covering the period 1897-1920, I find that there are 187 articles cited which deal with foreign bodies in the urinary bladder. I have personally met, in the last fifteen years, a rather large series of foreign bodies in the bladder and a short synopsis of a few of these cases is given at the end of this report.

## METHODS OF ACCESS OF FOREIGN BODIES INTO THE BLADDER

Foreign bodies (excluding ordinary simple calculi) may gain access to the bladder in several ways: First, by a traumatic penetration of the bladder wall, such as by a projectile from outside the body; secondly, by spontaneous perforation of the bladder wall by a foreign body, including

suture material, migrating from some neighboring organ; and the third method, which is by far the most common, introduction by the urethra. A fourth class might be added, i. e. foreign bodies such as instruments or sponges left in the bladder after a vesical operation.

Foreign bodies reaching the bladder by a traumatic wound are mostly bullets. These at times are accompanied by pieces of the patient's clothing; or a piece of clothing may be pushed into the bladder by a sharp object penetrating it. Thouvenin<sup>5</sup> reports a case in which a man was impaled on the leg of a chair and a piece of his trousers was pushed into his bladder. In 82 cases of foreign bodies of the bladder of traumatic origin collected by Bartels,<sup>6</sup> there were 10 pieces of clothing, 22 with particles of bone and 40 projectiles of different calibers.

A large number of cases are recorded in which various types of foreign bodies have migrated into the bladder by an ulcerative process from some organ in the vicinity. These include objects which have been swallowed by the patient; also instruments, dressings, etc., left in the abdomen or elsewhere after a surgical operation, as well as the skeletal remnants of an extra-uterine pregnancy.

If the intestine is adhered to the bladder, either by an inflammatory or neoplastic process, communication by an intestino-vesical fistula will be established between the two cavities and a foreign body can pass into the bladder. Similarly paravesical cysts and abscesses may discharge into the bladder after ulceration of its wall. According to Legueu and Michon,<sup>7</sup> Rayer<sup>8</sup> and Broca<sup>9</sup> reported cases of dermoid cyst contents being found in the bladder originating in this manner.

Ossifluent abscesses which have formed in the vicinity of the bladder, especially those containing the remnants of feti from extrauterine pregnancies, may rupture into the bladder. Goullioud,<sup>10</sup> Ungerer,<sup>11</sup> Desnos,<sup>12</sup> Heresco,<sup>13</sup> and others have reported cases of foreign bodies in the bladder from ossifluent abscesses, and skeletal fetal remains were reported by Monaschkin<sup>14</sup> and Guisy.<sup>15</sup>

Monaschkin, reporting in 1926, found 40 cases in the literature of the previous thirty years in which a foreign body had entered the bladder by penetration of its wall. These included 6



cases of penetration from the intestine and 15 cases in which the foreign body was a sponge, or suture material used in an abdominal operation. Luys<sup>16</sup> mentions the case of a man operated on for inguinal hernia whose bladder had accidentally been opened and sutured during the operation. Some months later the silk suture threads, which had fallen into the bladder, were found to be the nucleus of a phosphatic calculus. Luys reports a similar case in a woman following an abdominal hysterectomy and Le Fur<sup>17</sup> had an identical case.

Bladder calculi having as their nucleus a piece of suture material seem to be more usual after gynecological than after other operations. Landau,<sup>18</sup> Nitze,<sup>19</sup> V. Dittel,<sup>20</sup> Mankiewicz,<sup>21</sup> in addition to those already cited, have reported such cases. To explain the presence of this suture material in the bladder there are two hypotheses: either the bladder wall becomes incarcerated in suturing and the thread falls into the bladder, or else the presence of the thread forms an abscess at the site which secondarily opens into the bladder. The first hypothesis seems the more likely.

Regarding swallowed objects which have later been found in the bladder: Freeman<sup>22</sup> extracted a phosphatic calculus from the bladder of a boy the nucleus of which was a darning needle swallowed 18 months previously. Harrison<sup>23</sup> removed from the bladder of a man a tobacco pipe mouth-piece which he had swallowed a long time before. In Jacomet's<sup>24</sup> case a boy swallowed a small paint brush which in time perforated the bladder wall, set up a recto-vesical fistula, and was spontaneously eliminated per rectum. Monaschkin<sup>14</sup> includes five swallowed objects in his list.

*Foreign Bodies Introduced by Urethra.* Foreign bodies introduced into the bladder by the urethra may be of two kinds: they may be instruments introduced by a physician or by the patient himself for the purpose of relieving a urethral stricture, incontinence of urine or some other pathological condition; or, as is very often the case, they are objects introduced to excite sexual gratification, to cause abortion in the female, or in the male to check the issue of semen and prevent impregnation.

Of the surgical instruments, catheters and bougies in whole or part are the most frequent; and nearly 50 per cent. of the cases collected both by Hirsh and Packard were of this kind. A

fragile catheter or sound will often break and part of it slip into the bladder. Thermometers have also been found in the bladder as reported by Vincent<sup>25</sup> and Driout.<sup>26</sup>

Slotkins<sup>27</sup> patient, a man of 61 years, introduced a thick twisted strand of hair for the purpose of relieving incontinence of urine; and there are reports of several foreign bodies introduced for a similar purpose, and especially in those suffering from gonorrheal stricture. Thus Sheffield's<sup>28</sup> patient had introduced a hat-pin 7½ inches long.

The foreign bodies introduced into the urethra for masturbation and similar purposes, and which accidentally slip into the bladder, include a wide variety of objects; they are usually elongated bodies. In 34 of Packard's collected 221 cases the patient acknowledged this origin. In women the hairpin is a very common finding; Manton states that it is mentioned 93 times in 455 reports of foreign bodies.

In the female the urethra being very short and the sphincter lax it is an easy matter for a foreign body in the urethra to enter the bladder. Writing pencils, penholders, pieces of wire, glass tubes, pieces of rubber tubing, elongated pieces of wax and paraffin, stems of plants and a variety of more bulky objects have been introduced into the male and female urethra, some of which will presently be referred to. In the male the mechanism by which such introduced bodies reach the bladder is complex but still feasible. Although it is stated that muscular action about the urethra is exerted toward propelling a foreign substance externally rather than toward the bladder, yet some, such as Agnew,<sup>29</sup> have asserted that the bladder itself has a sucking action which tends to draw bodies in the urethra toward it. Usually the soft end of a foreign body is first introduced and the hard end last; the foreign body is then supported against the urethral wall by the hard end and detumescence of the penis in the male will also cause the foreign body to progress towards depth. Once a foreign body has cleared the posterior urethra in the male contraction of the membranous part will push it easily into the bladder.

Among the peculiar bodies found in the bladder are an ear-ring and a 12 cm. plaited strand of hair reported by Voillemier;<sup>30</sup> a pig's penis 30 cm. long reported by Bazy,<sup>31</sup> bone crochet needles,

a cylinder of potato, a galvanized watch chain, and many other unusual bodies are included in Packard's collection. In Brigg's<sup>32</sup> case a nail 5 inches long was found. Candles have been used frequently, White and Duff<sup>33</sup> among those reporting a case of this kind. Among women slippery elm bark, employed to produce abortion, has slipped into the bladder. Pomeroy<sup>34</sup> recently reported a case of this kind.

Not all cases, however, have been consequential to action of the patient himself. De Tarnowsky<sup>35</sup> reports a peculiar case in which a man had a quantity of tar forced into his urethra by his companions as a joke. A lump of tar, covered with calcareous deposits, was removed from his bladder. Fleury<sup>36</sup> also reports a case in which a cordwainer's awl was pushed into a man's urethra and was removed from the bladder 15 years later.

Mention should be made that in some persons of weak mentality there is a morbid disposition to continuously introduce foreign bodies into the urethra. Hoggs<sup>37</sup> mentions the case of a hysterical woman aged 42, the mother of eight children, who in the course of a year had introduced 10 different objects, including three safety pins, into her bladder. Young girls frequently introduce beans, marbles and other objects into the urethral canal and Noguiera<sup>38</sup> mentions a number of such cases.

*The Position Assumed by Foreign Bodies in the Bladder.* The position assumed by a foreign body in the bladder is important from the point of view of extraction. The position depends to some extent on the age of the patient as the bladder differs in the child and adult. In childbirth the bladder is more an abdominal than a pelvic organ, and the vertical diameter is greater than the transverse. In the adult the bladder sinks into the pelvis and flattens so that the transverse is the greater diameter.

Short foreign bodies do not attach themselves to the bladder unless pointed; they follow the laws of gravity, that is, if they are heavy they sink to the fundus of the bladder, generally posterior to the urinary orifice and in the male behind in a post prostatic pouch, but if light they float on the surface of the urine; soft bodies, such as rubber tubes, may coil up in the bladder and their flexibility allows them to become adapted to the dimensions of the bladder; if not soft but still flexible they may bend in an arc,

the ends resting against the sides of the bladder wall. The position assumed by long rigid bodies will depend upon their length and also whether or not they have sharply pointed extremities. Pencils, penholders, glass tubes and the like generally accommodate themselves to the larger diameter of the bladder, vertical in a child, transverse in an adult; or they may assume an oblique position. Hairpins generally become fixed in the bladder in the course of their introduction, that is the elbow of the pin is upward and the pointed extremities become fixed in the lower part of the bladder in the vicinity of the neck and the pin may move around the fixed point as a fulcrum during the filling and emptying of the bladder. It is well to remember this as in urethral extraction maneuvers may be necessary to correct the position in order to draw the hairpin out, elbow first.

*Toleration of Foreign Bodies by the Bladder.* Upon the introduction of a foreign body into the bladder there is generally at first some reaction; but if the body accommodates itself without great difficulty in the bladder, the latter soon ceases to react to its presence and the foreign body may remain for a long time without giving symptoms. Steinitz<sup>39</sup> reports a piece of rubber catheter in a man's bladder for 17 years and cites other cases of long duration. Packard mentions in his collection several cases in which foreign bodies have been tolerated for several years in the bladder without serious symptoms.

*Spontaneous Expulsion.* Spontaneous expulsion may occur either directly through the urethra or else by an ulcerative process in the bladder wall and fistula to the skin. Of the 391 cases of foreign body in the male bladder collected by Denuce in 1856 only 32 were expelled spontaneously; and in Packard's 222 male cases only 14. In Hirsch's 111 cases there were 4 spontaneous expulsions through the urethra. Bartels gives a higher percentage, 28 of his 87 traumatic cases showing spontaneous expulsion through the urethra.

When the elimination is not by the natural route it may occur by a vesico-vaginal or by vesico-anal fistula, or by a perivesical abscess. Groszlik<sup>40</sup> observed a needle eliminated by the anus and Villette<sup>41</sup> mentions the case of a canula expelled by a vesico-vaginal fistula after having remained 10 years in the bladder.

Elimination by the urethra is more usual in



females than in males for obvious reasons and incrustation is not even an obstacle to such elimination (cited by Le Dentu)<sup>43</sup> reports the case of a child who passed a calculus the size of a large olive which had developed in the bladder around the head of a pin.

*Evolution and Complications.* The bladder wall may, of course, be penetrated at the time of introduction of a foreign body, but this usually occurs much later. Other complications may occur such as the horrible case reported by Reed<sup>44</sup> in which a young man had passed a species of grass called foxtail into his urethra and bladder with subsequent infection of the pelvis. The scrotum and part of the pelvis sloughed away; a large part of the symphysis region also sloughed and a portion of the urethra had to be removed. There was an immense destruction of pelvic tissue but the young man finally recovered, having paid dearly for his folly.

Tolerated foreign bodies in the bladder do not usually give any characteristic symptoms. If in course of time infection and inflammation should occur the patient only shows the signs of cystitis. The infection may be early and arise from the foreign body itself or it may be the result of constant irritation where the body is in contact with the mucosa; in long-standing cases infection is almost sure to be present.

The commonest and most important complication of a foreign body in the bladder is incrustation with the gradual formation of an ammoniaco-phosphatic calculus about the body; in course of time in the case of small foreign bodies the general appearance is that of a true visical calculus. In elongated bodies incrustation usually begins at the central part and diminishes towards the ends. The process is more rapid in the case of immobile bodies of irregular surface and it may be observed in bodies which are extracted from the bladder within a few weeks after their introduction. In a case reported by Thevenard<sup>45</sup> a calculus had formed about the lower part of an elongated foreign metallic body, which had been introduced through the urethra six months before. The calculus had completely blocked the urethral orifice from the bladder.

McMartin,<sup>46</sup> in reporting some personal cases, expresses the opinion that neither the presence of infection in the bladder, residual urine, nor mechanical fixation in themselves are sufficient

to account for the formation of stone on foreign bodies. He thinks that disturbances of colloid equilibrium with consequent precipitation of solids by large foreign bodies introduced into the bladder may account for the fact that they so rapidly become the nuclei of calculi.

*Diagnosis.* In traumatic cases diagnosis, especially of metallic bodies such as bullets, presents no difficulty; but in other cases, in the absence of a confession by the patient the presence of a foreign body may not be suspected; the case may be considered as one of cystitis and the foreign body may only be accidentally discovered by cystoscopy or sometimes by radioscopy. Vaginal or prostatic palpation may give valuable information but cystoscopy is always the surest means of arriving at a complete diagnosis; it not only settles the question of the presence of a foreign body but it gives information regarding its configuration, nature, location, mobility, and incrustation. An exploring sound can of course be used but its findings are limited. In children and occasionally in adults cystoscopy may not be possible, but in such cases radiograms may establish the diagnosis. Leueu<sup>47</sup> remarks that errors in localizing a foreign body in the bladder by radiology are easy; two radiographs in different positions of the patient are necessary especially in the case of a mobile body. Revel<sup>48</sup> reports a case in a woman, with a piece of a metallic sound in the bladder, in which cystoscopy failed but the body was easily located and extracted under radioscopy control.

In differentiating a foreign body covered with a calcareous deposit from an ordinary bladder calculus, fixity and immobility of the calculus, its elevated position above the fundus, and sometimes a concomitant peri-cystitis are points which are characteristic of foreign body calculus.

#### TREATMENT

Waxy or paraffin substances can be removed if small by aspiration, as reported by Alglave,<sup>49</sup> or by solvent such as naphtha or alcohol. In 1907 Lohnstein<sup>50</sup> introduced the use of benzine for this purpose and Weiss<sup>51</sup> reported the removal of wax candles from the male bladder by this method. To avoid benzine poisoning sterilized water is first introduced on which the foreign body floats and the benzine is then injected.

The lithotrite was formerly more extensively used than at present for the removal of small re-

cently introduced foreign bodies from the bladder, especially from the female bladder. For the removal of hairpins Legeu,<sup>52</sup> instead of introducing an independent crochet employed the method of introducing the crochet inside an operating cystoscope, the hook catching the elbow of the pin after this had been placed in a favorable position by maneuvering. A forceps can be used in the same way for long non-friable bodies, and if they are encrusted the calcareous matter can first be crushed. In the female bladder small encrusted bodies may be extracted by the natural route. Legueu<sup>53</sup> has been able to extract bullets from the male bladder through the urethra, when there were no incrustations.

For small foreign body colculi Day<sup>54</sup> has successfully used a large Buerger or Braasch cystoscope with catheter guide through which an alligator forceps or snare was introduced.

Longitudinal or transverse suprapubic incision and cystostomy is the only practical method in young children with important foreign bodies in the bladder, and in adults having foreign bodies with sharp ends imbedded in the bladder mucosa 50 per cent. of Hirsch's 111 cases were operatively treated. Indeed with the present day perfection of the technique of cystostomy it is a question if this is not always the method of choice whenever extraction through the urethra is not quite easy. The Zuckerkandl method of perineal opening of the bladder may be adopted with advantage in the case of old persons in whom the suprapubic operation might be dangerous. The longer hospitalization in the case of section appears to be the only real objection as against urethral extraction. Lespinasse<sup>55</sup> says that cutting operations entail a convalescence of at least two weeks, and in conditions of this sort any opening made in the bladder tends to stay open as long as there is obstruction in the natural passages.

Naturally the method of choice will depend entirely upon the character, shape, size and position of the foreign object. Practically all small stones are easily removed by the Young rongeur either in segments or in toto and also a great variety of foreign objects introduced per urethra are likewise removed. I am of the opinion that whenever possible, every effort should be made to do an instrumental removal in all cases of small foreign bodies, this is generally an office procedure and does not entail hospital and operating

room expenses. Practically all small objects are easily placed in position accessible for a rongeur alligator forceps through an endoscope or a plain direct Kelly cystoscope.

### CASE REPORTS

Resume of some interesting cases taken from a series of 18. A. G., aged 35 years, widower, occupation rodeo performer, entered the Urological Service at the Alexian Brothers Hospital in November, 1926, with a history of an assault and a successful attempt to introduce some molten substance into the urinary bladder by his assailants. The patient on entrance was in severe shock, frequent hematuria, dysuria, strangury, and symptoms of a threatening peritonitis. The patient refused all operative assistance until 48 hours after his arrival, at which time a cystotomy was performed and 3 large globular masses of paraffin were removed; also an external urethrotomy later to relieve an extensive fibrosis and stricture of the posterior urethra. The convalescence was uneventful.

Case 2. A. L., Male, aged 52 years; married; occupation printer. Entered Alexian Brothers Hospital, May 9, 1920, with an acute retention of urine. All attempts at catheterization failed due to a hard fibrous stricture in the membranous urethra. Patient had been operated on 7 years before, a cystotomy had been performed by his local physician for a vesical calculus. An external urethrotomy was performed by us and on exploring the cavity of the bladder and vesical neck we encountered 5½ inches of a stone encrusted rubber catheter which evidently was overlooked in his former operation 7 years before.

Case 3. L. N., Male, aged 62 years, widower. The patient entered the Illinois Masonic Hospital, November 22, 1921, with a history of frequent and difficult urination extending over a period of several years. Patient had had a previous bladder operation 8 years before the nature of which was difficult to ascertain. A cystoscopic examination revealed a retention of 14 ounces of foul smelling urine markedly trabeculated bladder and an extensive medium and left lateral lobe obstructions. No evidence of malignancy. A two stage prostatectomy was advised and 7 days later on exploring the bladder we encountered an incrustated index finger of a rubber operating glove snugly injected in a post-prostatic pouch. The patient wore a suprapubic drainage tube for 8 weeks at which time the prostate was removed with satisfactory end results.

7 West Madison.

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## METHOD AND RESULTS OF TREATMENT WITH TRYPARSAMIDE AND MERCURY IN ONE HUNDRED CASES OF NEURO-SYPHILIS\*

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Arsenic has been used in the treatment of syphilis in various combinations both as organic and inorganic compounds; however, tryparsamide appears to have properties which render it

especially desirable in neurosyphilis. It was first used in U. S. Veterans' Hospital in 1923, from which time the data were collected for this series of cases.

Tryparsamide is the sodium salt of n-phenyl-glycinamid p-arsonic acid, which was synthesized by Jacobs and Heidelberger in 1915. The first experiments were carried on by Brown and Pearce on animals, which had been infected with trypanosomes and the spirochetes of syphilis. The name is derived from the first syllable of trypanosomiasis, affixing Arsamide to same to designate that it is arsenic in an organic combination. The arsenic content is about 25%.

Moore, Robertson and Keidel found that the drug had little or no value in early syphilis; even in tertiary syphilis its merit is doubted except for its tonic effect because of its feeble spirocheticidal activity. The arsphenamines and allied groups accomplish in one or two doses what tryparsamide does not accomplish in eight or more doses, or not at all.

The qualities of tryparsamide may be briefly outlined as follows:

As shown by experimentation, the spirocheticidal action of the drug is distinctly less than the trypanocidal action.

Tryparsamide has little spirocheticidal value when administered in early syphilis, but due to the property of tissue penetrability, it is found to be particularly valuable in late syphilis.

The drug has little or no irritating action to the subcutaneous tissues; therefore, it can be injected subcutaneously or intramuscularly.

The toxicity is low as shown by the minimal lethal dose being 1.28 gm per kilo body weight. Little or no after effects have been observed. Other observers have reported the development of amblyopia; this however has been found in this series temporary and evanescent. Seldom is the vision permanently lowered, although such cases have been reported.

Mercury in the form of salicylate is used in conjunction with the tryparsamide because of its spirocheticidal effect.

The following technique has been used in the administration of tryparsamide:—the drug as prepared at present comes in 3 gram sterile glass ampoules. The setup requires the following articles:

- First—2 medicine glasses
- 10 cc Leur syringes
- Hypodermic needles 19 to 22 caliber (Needles 1½ inch)
- 1.250 cc E-flask, with freshly triple distilled water.
- Second—4 sterile towels, hand gauze sponges q. s. cotton pledgets or cotton applicators.
- Tr. Iodine or 70% alcohol
- 12-inch rubber tubing ¼ inch diameter for tourniquet
- 1 shallow pan to hold sterile goods and instruments.

\*Address before Lake County Illinois Medical Society, March, 1927. Also before Calhoun County (Michigan) Medical Society, April, 1926.

The above instruments are all sterilized and placed between two sterile towels. The sterile medicine glasses are placed on a sterile towel, one is filled with freshly distilled water (triple distilled); into the other the contents of the ampoule, namely, the tryparsamide, is added. One or more doses may be prepared at once if the work is being done in institutions or clinics where more than one is being treated at a time. For each dose of tryparsamide, 10 cc of water are drawn into the Luer syringe (before fixing the needle) and this forcibly emptied into the glass containing the drug, after which the syringe is used in mixing the drug and drawing it up and expelling it from the syringe. It is only necessary to repeat this a few times, the drug being very soluble. Finally 10 cc of the solution are drawn into the syringe, the needle fixed and the contents injected into the arm, the tourniquet being released after the vein has been entered. Seventy per cent alcohol or a weak solution of tinctures of iodine is applied to the skin at the proposed site of the entrance of the needle. The median basilic or adjacent veins are used because of convenience.

When a series of cases are treated, a separate syringe is used for each case to expedite matters. During the entire procedure, strict attention is paid to asepsis. By following this technique 40 to 50 patients may be treated in an hour.

The technique of giving mercury salicylate intramuscularly is understood by all; variations are introduced by each individual. At the outset of the treatments, mercury salicylate was given in one-grain doses in an oily suspension sealed in glass ampoules. It was found that it was hard to withdraw the contents into the syringe, further the drug had a great tendency to leave the solution and adhere to the container. Placing the ampoule in warm water usually aided but did not remedy the condition. In addition to these objections, there was constant danger of contamination. The following technique was found preferable, especially where many cases were treated:

Mercury salicylate is given in one-grain doses intramuscularly into the buttocks. The suspension is prepared so that each cc of oil (olive oil 75% lanolin 25%) contains one grain of mercury salicylate. Several ounces are usually made up at one time and allowed to stand for several days; each day the contents are shaken. The lanolin content tends to aid in the holding of the drug in the sus-

pension. 5 to 10 cc syringe (Luer) is used. The suspension is drawn up into the syringe to the capacity mark. One cc is administered at a dose, the needles are changed for each patient, this greatly expedites the treatment and still the aseptic precaution can be observed.

It is not necessary to give any special attention to the preparation of the patient to be treated before the tryparsamide is administered. Gastro-intestinal and other symptoms that are often present following the treatment with the arsphenamide group have been negligible.

In the diagnostic classification, general paralysis of the insane is divided into cerebral and tabetic type in accordance with the classification in use by the Veterans' Bureau. Cerebral type includes those cases which show upper motor neurone involvement, exaggerated or spastic deep reflexes, muscular rigidity, tremors, etc., while the tabetic type is characterized by the tabetic syndrome manifesting symptoms of spinal involvement, incoordination, absent reflexes, ataxic symptoms, Argyll Robertson pupils and disturbances of sensation.

In the selection of patients for treatment of these 100 cases, little attention was paid to the type, except that all had a central nervous involvement of some form; in other words, all cases in this series were neuro-syphilitic. Most of these patients had been intensively treated before entering the institution.

In each case, a complete record of the neurological and mental findings were made as well as the blood Wassermann and complete analysis of the spinal fluid; also the eyegrounds were examined before treatment. These examinations were repeated after each course of the two drugs.

In many cases the spinal fluid was taken immediately after each course of treatments and following the six weeks rest period. However, very few changes were noted in the spinal fluid in this period.

All of these cases remained in the hospital during the time that they were treated or observed, which ranged from six months to three years. Those who did not remain a sufficient length of time for two or more courses are not recorded. From the history available of the 100 cases, 51 individuals gave a positive history of an initial lesion, the average length of standing of the disease before tryparsamide was instituted, was ten years plus. Eighteen denied any knowledge of a luetic or other venereal disease, the



other thirty-one did not or were too demented to recall a sore or skin eruption, but several admitted gonorrhea. The minimum duration of the disease was a year and a half, while the maximum was twenty-nine years. Sixty-three cases had had previous antiluetic treatment, ranging from a few intramuscular and cutaneous inunctions of mercury and potassium iodide to sixty or more intravenous treatment of arsenicals. Twenty-two did not give a history of previous treatment, while in twenty-three of the cases the amount of previous treatment, if any, could not be ascertained. In many of the cases the clinical pictures were atypical at the beginning of this treatment, some of the physical, mental, and serological findings having been more or less altered by the amount and type of previous treatment.

A course consisted of eight intravenous injection of tryparsamide gms. 3 and 8 intramuscular injections of mercury salicylate gr. 1. Each drug is given weekly, separated by three or four days. Thirty-one of the cases reported here received four courses each, thirty received three courses each, and the remaining thirty-nine, two courses each of tryparsamide and mercury. Eleven patients were treated with novarsenobenzol during the rest period between the first and second and second and third courses. These cases were selected from those which persistently showed a positive Wassermann test, those who had cutaneous lesions, and others who manifested retrograde changes physically and mentally in spite of the treatment. It has been suggested that arsphenamide or its derivative act as adjuvants to tryparsamide and mercury; again it may be more toxic to the organisms which have gained partial immunity to the latter drugs, provided that the arsenicals or mercurals act directly on the spirocheta pallida.

The following tables have been compiled to show the condition of the patients before the

treatment had been instituted and the condition after same had been completed:

TABLE 1-A. MENTAL CONDITION BEFORE TREATMENT

DISEASES:	Dilapidated	Fair	Good	Total
General Paralysis				
Cerebral type .....	40	19	2	61
General Paralysis				
Tabetic type .....	15	7	3	25
Cerebro Spinal				
Syphilis .....	1	10	1	12
Tabes .....	(Not Psychotic)			
Total .....	56	36	6	100

Referring to Tables 1-A and 11-B those classified under the mental status as:

First. *Dilapidated*—include fifty-six of the cases that were mentally deteriorated and led largely a vegetative existence. Of this group eleven showed a “marked improvement” over their original state before treatment was instituted; twenty showed a moderate improvement, i.e., they still showed considerable evidence of a psychosis but the improvement was appreciable. Eighteen remained in a stationary condition. They did not show any improvement mentally, neither were there any retrograde changes. Five manifested definite retrograde changes and two deaths occurred during the time that the treatment was carried out.

Second. *Fair*—includes thirty-six cases which were in fair contact with their environment, partially orientated deterioration in memory, retention, education, judgment and emotional fields, with or without delusions or hallucinations, but not those with marked mental disturbances. Of these, fourteen showed a marked improvement reaching nearly their former normal mental level before the disease had left its stains. Ten of this group showed a moderate improvement over their level before they had received the treatment. Nine did not show any improvement, while three manifested definite symptoms of further mental deterioration.

Third. *Good*—there are six cases which were in a state of remission and showed only the

TABLE II-A. MENTAL CONDITION FOLLOWING TREATMENT

	DILAPIDATED					Total	FAIR					Good	No Psy- chosis	Total
	Marked	Mod.	Improvement Stat.	Retro.	Death		Marked	Mod.	Improvement Stat.	Retro.	Total			
General Paralysis														
Cerebral type .....	8	15	14	2	1	40	10	4	4	1	19	2		61
General Paralysis														
Tabetic type .....	3	5	3	3	1	15	3	2	1	1	7	3		25
Cerebro-Spinal														
Syphilis .....			1			1	1	4	4	1	10	1		12
Tabes .....													2	2
Total .....	11	20	18	5	2	56	14	10	9	3	36	6	2	100

Key to abbreviations used above: Mod.—moderate; Stat.—stationary; Retro.—retrograde.

slightest evidence of any psychosis. Two cases of tabes did not have a psychosis.

TABLE I-B. PHYSICAL CONDITION BEFORE TREATMENT

Disease	Poor	Fair	Good	Total
General Paralysis, Cerebral Type	20	32	9	61
General Paralysis, Tabetic Type	13	7	5	25
Cerebro-Spinal Syphilis	8	4	0	12
Tabes	1	1	0	2
Total	42	44	14	100

Those classified under the physical condition as:

First. *Poor*—forty-two cases showed some or all of the following symptoms: marked prostration, untidy in personal habits, emaciation, trophic ulcers, prominent neurological manifestation, etc.

Second. *Fair*—forty-four cases showed a disturbance of the reflexes, pupillary changes, mild or no incoordination, changes in facial expression, underweight, but ambulatory.

Third. *Good* — fourteen cases manifesting such symptoms as mild pupillary and reflex changes or slight facial symptoms, but not sufficient to handicap them to any degree.

Table 11-B was compiled from Table 1-B showing the condition of the patients having received from two to four courses of treatment. Of the forty cases classified as in poor physical condition in Table 1-B, nine showed a "Marked Improvement," recovering from their physical and neurological conditions which were present at the beginning of the treatment with the exception of pupillary and reflex changes, which are usually constant and do not entirely disappear; fourteen showed a moderate improvement characterized by improved general appearance, gain in weight, improvement in coordination, less prostration and restoration of sphincter control. Eleven of this group remained in stationary physical condition, no changes being in evidence; six manifested no improvement—in fact their condition was on the decline. There were two deaths in this group occurring during

the period that the treatment was being administered.

Of the forty-four cases classified as in fair condition following the treatment thirteen manifested a marked improvement physically, going into state of remission which remained fairly stationary. Nineteen showed a moderate degree of improvement over the condition which was present at the time of admission to the hospital. Ten remained in a stationary condition while two showed retrogressive changes. Of the fourteen cases classified as good, these remained in a state of remission irrespective of their mental and laboratory findings.

The improvement is most noticeable in those patients who are in fair condition at the time treatment is begun, thirty-two of forty-four manifesting improvement under the "fair" heading while twenty-three of the forty-two classified under "poor," showed improvement in varying degrees. This again emphasizes the importance of early diagnosis and treatment.

The improvement is usually first noticeable physically—the mental condition improves more slowly. Considering Tables A and B, there was an improvement in a varying degree in fifty-five per cent. physically against fifty-six per cent. mentally. No complete cures can be claimed but the improvements where indicated in tabulations were very definite both mentally and physically irrespective of the type of neuro-syphilis.

The physical improvements that were noted most frequently were:—gain in weight from ten to sixty pounds; better coordination including improvement in station and gait. Improvement in focal symptoms if they existed, and better articulation. Many of the annoying symptoms of neuro-syphilis disappear or improve, such as convulsions, ulceration, bone and joint involvement, etc., especially if the two drugs were supplemented by one of the arsphenamides group since it appears to act more powerfully on systemic, than on neuro-syphilis.

TABLE II-B. PHYSICAL CONDITION FOLLOWING TREATMENT WITH TRYPARSAMIDE AND MERCURY

	POOR Improvement					FAIR Improvement							
	Marked	Mod.	Stat.	Retro.	Death	Total	Marked	Mod.	Stat.	Retro.	Total	Good	Total
General Paralysis, Cerebral Type	6	7	5	1	1	20	7	16	7	1	32	9	61
General Paralysis, Tabetic Type	1	4	4	3	1	13	4	2	1	0	7	5	25
Cerebro-Spinal Syphilis	2	2	2	2	0	8	1	1	1	1	4	0	12
Tabes	0	1	1	0	0	1	0	0	1	0	1	0	2
Total	9	14	11	6	2	42	13	19	10	2	44	14	100

Key to abbreviations used above: Mod.—moderate; Stat.—stationary; Retro.—retrograde.



Mentally, the notable changes for the better are:—increased interest in their surroundings with better contact and orientation. Emotionally, less frequent violent outbursts of excitement. The euphoria and depression are usually less marked when once having been present. The irritability recedes to the background. Many of the cases, after several years have elapsed since their first treatment of tryparsamide, enter into a state where it appears their condition is stationary. They may be in a poor mental and physical state, yet they remain in this condition

without improvement or retrogression; in these cases the serological findings are often normal.

Tables III A, B and C and IV A, B and C are the results of laboratory examinations made on the foregoing cases.

Just a word of explanation as to the method used in tabulation. For example, a case which had a strongly + Wassermann after completion of a course, was entered under "positive and remaining positive," if, after the second course the reaction became negative, it was recorded under "positive rendered negative"; if it remained negative after the third and fourth course, it was recorded under the heading "normal and remaining normal" respectively. When a reaction was "reduced from strongly positive," it was listed under this heading; if however, it remained positive after the next two or more courses, the result was recorded under "positive and remaining positive." The same method was carried out if the results were negative recording them under the "normal" headings.

#### PERCENTAGE AS TAKEN FROM TABLES III-A, B AND C

Results after:	Spinal Fluid Wassermann					Spinal Fluid Cell Count				Spinal Fluid Globulin				Blood Wassermann					
	Number of individual cases reported	% of cases having negative Wassermann or rendered negative during course	% of positive Wassermann and remaining positive	% of cases having the Wassermann rendered negative during the course	% of cases reverting from negative to positive Wassermann	% of Wassermann reaction reduced from strongly positive	% of cases where cells per cu. mm. were reduced	% of cases where cell count remained high	% of cases having normal cell count and remaining normal	% of cases reduced to normal count during course	% of cases having strongly positive globulin which was reduced	% of cases having positive globulin reaction reduced	% of cases showing positive globulin and remaining positive	% of cases where globulin was reduced to trace	% of cases where globulin was rendered negative and remained negative	% of cases presenting negative Wassermann or rendered negative during course	% of cases positive and remaining positive	% of cases having the Wassermann rendered negative during the course	% of cases reverting from negative to positive Wassermann
1st course.100	12	77	1	0	10	14	71	10	5	16	1	63	19	1	26	64	3	3	7
2d course.100	14	58	17	0	11	29	24	19	28	18	3	37	39	4	27	29	20	2	12
3d course.61	28	34	11	5	21+	21	21	36+	21	13+	3+	32+	47+	3+	42+	31	30	5	6+
4th course.31	35+	26	7	6	26	13	7	51	30	16+	6+	22	41	6+	50+	30	3	3	9+

#### LABORATORY REPORTS ON SPINAL FLUID AND BLOOD WASSERMANN OF 100 CASES TREATED WITH TRYPARSAMIDE AND MERCURY

	Wassermann					Spinal Fluid Cell Count			Globulin					Blood Wassermann						
	Number of cases reported	Negative and remaining negative	Positive and remaining positive	Positive rendered negative	Negative becoming positive	Reduced from strongly positive	Cells per Cu. mm. remaining high	Cells per Cu. mm. remaining normal	Normal count and remaining normal	Reduced to normal count	Positive globulin reduced	Positive globulin rendered negative	Globulin positive and remaining positive	Globulin reduced to trace	Globulin negative	Negative and remaining negative	Positive and remaining positive	Positive rendered negative	Negative becoming positive	Reduced from strongly positive
TABLE III-A Results after:																				
1st course... 31	31	6	23	0	0	2	8	17	5	1	7	0	17	8	1	13	16	2	0	0
2d course... 31	31	7	17	3	0	4	10	5	7	9	5	2	10	13	1	13	12	4	2	0
3d course... 31	31	16	12	2	0	7	5	4	15	17	5	2	11	13	0	15	13	2	1	0
4th course... 31	31	11	8	2	2	8	4	2	16	9	5	2	8	14	2	16	9	2	1	3
TABLE III-B Results after:																				
1st course... 30	30	4	22	1	0	3	2	24	8	1	2	1	17	9	0	7	19	1	0	3
2d course... 30	30	5	15	4	0	6	8	9	7	8	2	0	9	16	2	8	12	6	0	4
3d course... 30	30	7	9	5	3	6	3	8	12	7	1	1	6	20	2	11	6	7	2	4
TABLE III-C Results after:																				
1st course... 39	39	2	32	0	0	5	4	30	2	3	6	0	29	4	0	8	29	0	0	4
2d course... 39	39	2	26	10	0	1	11	10	6	13	10	0	18	10	1	6	15	10	0	3

EFFECTS OF TREATMENT WITH TRYPARSAMIDE AND MERCURY UPON THE LANGE GOLD CHLORIDE CURVE

Percentages as taken from Tables IV-A, B and C

	Number of cases	Strongly positive curves and remaining positive	Positive curves reduced from strongly positive	Curves having been reduced re- turning to strongly positive	Curves rising after hav- ing been normal	Curves rendered normal	Normal and remaining normal	Number of cases	Percentage of strongly positive curves and remaining positive	Percentage of positive curves reduced from strongly positive	Percentage of curves having been re- duced returning to strongly positive	Percentage of curves rising after having been normal	Percentage of curves rendered normal	Percentage of normal curves and remaining normal
TABLE IV-A														
Results after:														
First course	31	22	8			1	100	75	21	0	0	4	0	
Second course	31	21	7			2	100	55	31	2	0	6	4	
Third course	31	18	10			3	61	41	31	6	2	12	9	
Fourth course	31	15	9		2	3	31	50	30	0	6	9	6	
TABLE IV-B														
Results after:														
First course	30	21	7			2								
Second course	30	12	12	2		2	2							
Third course	30	7	9	2	2	7	3							
TABLE IV-C														
Results after:														
First course	39	32	6			1								
Second course	39	22	12			2	1							

Considering Tables III A, B and C, the earliest and most noticeable changes occur in the cell count of the spinal fluid. In fifty-five of the one hundred cases the count was reduced to normal within one to four courses, the maximum reductions occurring after the second course of treatment. Again, in many of the spinal fluids there was a reduction in the number of cells but not necessarily reduced to a normal count, the extremes varying between two-hundred eighty and nine. The percentage of cell counts remaining high at the end of the first course was seventy-one, which diminished progressively so that only 7 per cent. still had a decided increase at the termination of the fourth course. Ten spinal fluids presented a normal count at the beginning of the treatment and remained so; these are tabulated under the heading "normal count and remaining normal."

The Ross Jones test was employed in the detection of globulin in the spinal fluid. The intensity of the reaction of this test was reduced in many of the cases. A large number of the globulin reactions were reduced to a mere trace, but the percentage in which the globulin was rendered negative is extremely low. This in all probability indicates that meningeal irritation was reduced, but not entirely eliminated.

Eleven cases presented a negative spinal fluid Wassermann at the beginning of the treatment which remained negative throughout the time patients were treated. In twenty-seven of the one hundred cases the spinal fluid Wassermann was rendered negative in one to four courses of treatment, five of these reverting to positive. Under the heading of spinal fluid Wassermann, "positive and remaining positive," the diminution of positives was progressive, namely, 77 per cent. after the first and only 26 per cent. following the fourth course.

The blood Wassermanns in this series manifest somewhat of a different picture than is usually the case with the treatment of tryparsamide. Thirty-four of the positive blood Wassermanns were rendered negative, only six of them reverting to positive. One might think that this high percentage could be attributed to the use of novarsenobenzol used during the rest period. Only eleven cases, as previously stated, were treated with this preparation. Of the eleven thus treated, all had strongly positive Wassermanns, but only three of these were rendered negative during the treatment. This then would have little effect on the percentage. Twenty-three blood specimens of this series of one hundred cases presented a negative



blood Wassermann before treatment was instituted; this large percentage can be explained on the basis of previous treatment or possibly the tendency of the disease of syphilis like other granulomata to be self limiting since a great many of the patients had had no previous treatment. At this point it may be well to stress the importance of making a spinal fluid examination early, especially if any clinical or mental symptoms are present which indicate neuro-syphilis. It appears that the effect of these drugs have been equally beneficial on the blood and spinal fluid. The Kolmer technique was used, employing six tubes in performing the Wassermann test. This allows a qualitative as well as a much more accurate quantitative reading. For example, if the reading on the spinal fluid were 444,300; after a period of treatment, the next specimen would show a reading of 430,000, which indicates in all probability an improvement has occurred.

The results of the Lange gold chloride have been tabulated in Tables IV A, B and C. The gold chloride curve is usually the last to show the effect of the treatment. The "strongly positive and remaining positive" curves showed a decline in the number of strongly positive curves after each course of treatment. The cases which have not been reduced or rendered negative in their reactions are tabulated and placed under the heading of strongly positive and remaining positive. The maximum number of improvements occurring after the third course. The term strongly positive is used here as indicating any dilution of the gold chloride solution which has been completely decolorized. In other words, the solution is colorless as represented by a (5) in the curve, irrespective of whether or not it is a luetic or paretic type of curve. By the normal curve we mean those dilutions of the colloid gold curve which show a very slight discoloration, namely—red blue, which is designated by a (1) in the curve, while the preceding discoloration is designated by a (5) in the curve. Twenty positive curves were rendered normal during the treatments, six reverting to positive. A considerable number of curves were reduced from strongly positive as seen by the tables, that is, the gold solution showed less of a reduction in the lower dilutions.

The clinical and laboratory findings usually, but not of necessity, parallel each other. Often,

as previously stated, a case may have normal cytobiological findings while the patient may remain in a poor mental and physical condition, but there seems to be an arrest of the disease. Others may show a marked improvement clinically long before there are any manifest changes serologically.

In the treatment of syphilitic patients one is often prone to overlook the general conditions such as:

*Oral Antisepsis*—including mouth washes, dental treatment where indicated and brushing of teeth.

*Hydrotherapy*—as indicated for eliminative tonic or sedative effects.

*Exercise*—outdoor, calisthenics for those who are in fair physical and mental condition, and massage, corrective exercises, or electrotherapy for those who are unable to accomplish the former.

*Diet*—nourishing, wholesome and special food for those having gastro-intestinal symptoms.

*Medication*—where indicated such as sedatives, cathartics, etc.

These patients are best treated in institutions where facilities permit all the advantages for the treatment as stated.

The untoward symptoms of tryparsamide are few, the one that has been most mentioned is amblyopia, but the writer has not found this a very prevalent one. In two or three cases it was present but evanescent and of very short duration without permanent impairment of vision. Amblyopia as is known, often occurs in the course of neuro-syphilis and if it does in itself it is not a contra-indication to the continuance of treatment. It has cleared up in those cases without cessation of treatment. Frequent ophthalmoscopic examinations should, however, be made and if any subjective symptoms such as dimness of vision, scotoma or restricted field of vision occur these should be thoroughly analyzed.

#### CONCLUSIONS

Tryparsamide and mercury used in combination had a beneficial effect physically and mentally in over 50 per cent. of the one hundred cases of neuro-syphilis treated.

No cures can be claimed for any in this series despite the fact that some entered into an excellent state of remission, rather the disease appears to be arrested. The treatment prolongs life; it improves or eliminates many of the undesirable and troublesome symptoms and conditions—thus making the patient's life more endurable and occasionally restoring him to a useful social position. The drugs have a more favorable action upon early cases of neuro-syphilis who

are in a fair physical and mental condition. Far advanced and terminal cases show no decided improvement.

Upon the laboratory findings the influence of these drugs is also decidedly favorable, as shown in the case of the spinal fluids where the cell count is first to show a diminution; secondly, in over 20 per cent. of the cases the Wassermann was rendered negative—those that were negative at the beginning of treatment remained so, while many were reduced in the intensity of the reaction; thirdly, the globulin was reduced in intensity of the reaction in a large percentage of cases, but few were rendered negative. The Lange gold chloride test is the last to show the effect of the treatment. In this series 20 per cent. of the curves were rendered normal; in other cases the curve remained stationary or manifested an improvement, only a few showing reverse changes. The blood Wassermann was rendered negative in one-third of the cases in this series, which is higher than other writers using this treatment have found.

The physical, mental and laboratory condition of these one hundred cases tend to run a parallel course, but not necessarily so. An improvement may be noted in one or more of these, while the other or others may be stationary or occasionally show reverse changes. This undoubtedly can be attributed to the anatomical location or the pathological changes produced in the nervous system as a result of the disorder.

Two or more courses of treatment are necessary before any decided beneficial results are obtained. The improvement is usually first noted in the physical condition. Mentally they improve more slowly and often not as completely as in the physical state. Certain of the serological tests often show changes after one course of treatment, while others do not show the effects until several courses have been administered.

Several doses of neoparsphenamine given during the rest period appear to act as an adjuvant to the tryparsamide and mercury treatments.

Careful attention should be given to the personal hygiene and general physical condition of the patient during the antiluetic treatment.

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## SCIATIC NERVE PARALYSIS FOLLOWING ALCOHOL INJECTION

### A REPORT OF TWO CASES\*

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These cases of sciatic paralysis are presented to show the pathology due to a chemical injury of a peripheral nerve and the dangers due to the injection of alcohol in mixed nerve trunks for the relief of neuritis or neuralgia.

Case 1. A carpenter, 51 years of age, met with an accident in 1923. Two months later he developed a severe pain along the course of the sciatic nerve of the right thigh. He made the rounds of physicians and institutions submitting to this and that form of palliative treatment. Finally in December, 1924, six months after his accident, he met a physician who advised the injection of alcohol into the sciatic nerve trunk. The patient, driven to desperation by the constant pain, readily agreed to the procedure with the understanding that the injection might not bring about a cure but would do no harm.

Within one minute after the injection of the alcohol the pain disappeared, the leg and foot became numb and heavy and the patient discovered that he could not move his foot. The day following he left the hospital, but had great difficulty in walking. He was unable to dorsal-flex his foot and he felt as though he were walking on a "wobbly ball." Four days after the injection various paresthesias developed in the foot and leg and lasted for a period of six weeks. Twenty-two months after the injection of the alcohol the loss of function in his foot was still present without improvement.

The physical examination in November, 1926, showed a fairly well nourished adult male about 50 years of age who walked with a peculiar gait. The examination of the right lower extremity revealed foot-drop, vasomotor disturbances, some atrophy of the muscles, disturbances of sensibility and flaccid paralysis of the anterior muscles of the leg and foot. The foot-drop was due to paralysis of all the muscles supplied by the peroneal nerve. Slight adduction of the foot and slight plantar-flexion of the toes was present. Abduction of the foot and spreading of the toes was impossible. The peroneal nerve and muscles supplied by it made no response to stimulation by the faradic or galvanic currents. The ankle-jerk, plantar and toe reflexes were absent, but the patellar reflex however was present and pronounced. Moderate atrophy of the muscles occurred below the knee on the inner and outer borders of the leg. The vasomotor changes resulted in a swelling about the ankle and swelling and redness over the dorsum of the foot, cold

\*Read before the Chicago Orthopedic Club, Chicago, December 10, 1926.



dry skin, and a healed ulcer due to shoe injury at the base of the little toe. The sensory changes were quite marked. The area of sensory loss extended along the lateral side of the leg over an area about four inches wide from the head of the fibula down to the external malleolus. Here the area extended forward and spread out over the dorsum of the foot. It included the lateral border from the middle of the external malleolus anterior and the median border from the base of the great toe forward. The entire plantar surface of the foot was also involved except for a narrow strip along its median side. The cutaneous disturbances consisted of insensibility to light touch, localization of touch, discrimination of two points, pinprick, extremes of temperature, deep pain and sense of position of the toes.

The findings in this case illustrate a complete paralysis of the peroneal nerve with some involvement of the tibial nerve.

Case 2. A milk-wagon driver 40 years of age came into the hospital on September 16, 1926, complaining of impaired function of the right foot. He had suffered for eleven months from a severe persistent pain down the course of the sciatic nerve, and submitted to practically every known form of palliative treatment for sciatica. Finally he met a physician who advised an operation. This operation was performed on May 28, 1926, and consisted of an open operation in which the sciatic nerve was stretched and injected with alcohol. When the patient awoke from the anesthetic his entire right lower extremity felt "dead." He was unable to identify the position of his leg and foot and there seemed to be no feeling present. In the course of two weeks his condition improved and he regained some power to flex and extend his knee and to plantar-flex his foot. The wound healed by first intention and the patient left the hospital in a wheel chair on the fifteenth day. He suffered for the following nine weeks from a marked sensation of burning on both the dorsal and the plantar surfaces of the foot. Six months after the operation a condition of foot-drop was still present along with certain disturbances of sensibility on the lateral part of the leg and foot.

The physical examination of both case 1 and case 2 showed the same condition with the exception that in case 2 the patient has regained some power to dorsal-flex the toes.

Five cubic centimeters of 70 per cent. alcohol were used in the injection in case 1 while in case 2 ten minims of 50 per cent. alcohol were used.

A peroneal nerve paralysis was present in both patients but case 1 had in addition some involvement of the tibial nerve. The prominence of the peroneal nerve injury can be explained by the fact that, high up in the thigh, the peroneal

portion of the sciatic nerve lies lateral and posterior to the tibial nerve and the nerve to the hamstring muscles. A needle introduced from posterior would strike the fibres of the peroneal nerve first.

Numerous cases practically identical with these have been reported in the literature. They show the same conditions, namely: a persistent sciatica resisting all forms of palliative treatment, and alcohol injection of the sciatic nerve trunk followed immediately by an unexpected persistent paralysis.

Cadwalader<sup>1</sup> said that, "Alcohol destroyed nerve tissues by dissolution, coagulating albuminous materials and dissolving lipoid substances thus bringing an end to the conduction of painful sensations." His report showed that degeneration varied in amount and depended on the extent of contact of the alcohol and the strength of the alcohol solution used. He found that, "25 per cent. solutions of alcohol produced little or no degeneration while 80 per cent. solutions caused profound degenerative effects."

A difference of opinion exists in regard to the action of alcohol on peripheral nerves. This may be due to conclusions derived from inaccurate experimental methods, in which the strength of the alcohol solutions was not constant and the nerve used was in one case a mixed nerve and in another case a purely motor or purely sensory nerve.

Gordon<sup>2</sup> in a series of experiments on dogs used constant factors and demonstrated that the action of alcohol is different on motor, sensory and mixed nerves. He showed that alcohol produced degenerative changes in sensory and mixed nerves while it had no effect on purely motor nerves outside of destroying the perineural tissue.

Cadwalader<sup>1</sup> mentioned in the causes of the sciatic paralysis other factors than the degenerative action of the alcohol such as the direct damage to the nerve fibres by the introduction of the needle in making the alcohol injection and the possibility of a needle causing hemorrhage by perforating vessels within the nerve.

A review of the literature on the subject seems to strongly indicate that good results following the injection of alcohol in the treatment of sciatica have been due to one of two things. Either the alcohol used was in weak solution

1. Cadwalader, W. B., J. A. M. A., 1915, xxiv, 1892.  
2. Gordon, Alfred: J. Nerv. and Ment. Dis., 1914, 81.

or it was injected outside and not inside the nerve sheath.

Foot-drop due to alcohol injection of the sciatic nerve is obviously an avoidable unnecessary accident. A search through the present day literature shows that either alcohol injection is not mentioned in the treatment of so-called sciatica or as in Warbasse's Surgery<sup>3</sup> the fact is mentioned that it is, "contraindicated because of the liability to produce permanent degenerative changes in the motor fibres of the nerve."

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### SOME MINOR INJURIES WHICH TOO FREQUENTLY RESULT IN PERMANENT DISABILITY\*

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We well remember one of our teaching professors while in medical college expressing surprise at the large percentage of student's questions for information directed more or less toward rare pathological conditions rather than to the more common affections of the human body. The latter conditions would, he knew, engage 90 per cent. of their scientific effort after getting out into practice. I quote from the report of the Commission on Medical Education. "To much of the clinical teaching is from the standpoint of the specialist and on rare diseases, and not enough from the standpoint of the needs of most patients." "The divided responsibility for the care of patients and the impersonal attitude so frequently taken toward patients in the hospital and clinic handicap the preparation of students for the assumption of individual responsibility required in practice and for the large emotional and psychologic factors seen in many illnesses."

We practitioners are not altogether different in our inclinations than the student. It seems natural and really seems more interesting to study and research into more or less rare conditions of morbidity. But I hope you agree with me that we should spend more time than we do in discussing and learning about the common every day problems. At least we ask your in-

dulgence for a brief time while we discuss with you some frequently occurring conditions and methods of treatment that in our experience will aid in reducing the liability of permanent disability.

Considering our subject "some minor injuries which too frequently result in permanent disability" we shall confine our talk today principally to the hands, wrists, feet and ankles. It is obvious that the line between minor and major conditions cannot be sharply drawn so if some seem to approach upon the major field we hope you will keep this thought in mind.

*Skin Nature's Protection.* The most virulent micro-organisms may rest on the surface of the skin and be harmless unless an avenue of entrance to the soft tissues is made.

*The Natural Powers* of self protection of body tissues against the harmful activity of germs is in this day recognized and respected. A strong antiseptic tends to interfere or destroy this self protecting force.

Knowing as we do the danger of certain bacteria when coming in contact with the broken skin, we are not backward to state that every possible precautionary measure of treatment should be instituted in order to save our patients from complications, disability and possibly loss of life itself.

It is our firm belief that in all conditions when virulent or non-virulent bacteria have gotten under the skin and into the soft tissues, ample drainage is the treatment par excellence. By ample drainage we mean incision or incisions wide enough so that the line of least resistance to that infection is outward into sterile wet compresses. Drainage is not ample when incisions are so small that compression is necessary to express the retained pus.

*Aspiration Drainage Devoid of Pressure* is one method of evacuating pus from pockets and sinuses. Injecting a non-irritating antiseptic solution into the wound, after aspirating the pus, and without pressure and then aspirating it two or three or more times removes the majority of the foreign material and allows the protecting and healing tissues to surmount the invading enemies.

*Paronychia:* Infections about the roots of finger nails should not only be incised but a triangular section of soft tissue removed from both corners extended to proximal corner of

\*Read before Illinois Society of Industrial Medicine and Surgery, Moline, Ill., May 31, 1927.

3. Warbasse, J. P.: Surgical Treatment, 1920, i, 878.



root then the proximal  $\frac{1}{3}$  of the nail should be removed. If allowed to proceed without ample drainage and removal of devitalized portions of nail, infection may penetrate from matrix to periosteum with resulting osteomyelitis and loss of distal phalanx. If properly treated early there should be no temporary disability, as the tip of the finger is protected by the distal  $\frac{2}{3}$  of the nail.

*Whitlow* of the subcutaneous type involving the pulp of the tips of the fingers is a condition that too frequently results in a stiffened distal joint or loss of distal phalanx. Too frequently drainage is attempted by a longitudinal incision, forgetting the trabeculae which courses tenaciously from skin to periosteum. Through and through incision almost from distal joint to tip of finger is essential for ample drainage. A sterile rubber band drain is handy and most useful. The removal of one inserts the other. Irrigation, aspiration drainage, wet compresses.

*Whitlow of the Thecal Type* of periostitis only develops when preceding treatment has been inadequate. Treatment is the same as above stated except irrigation and aspiration thrice daily. After periostitis has been established removal of the distal phalanx will be found necessary, a permanent disability occurring too frequently.

*Puncture and Lacerating* wounds of the fingers which are insufficiently drained may penetrate to the tendon sheaths. Leaving the first point of inadequacy we will consider now tendon sheath infections. Incisions should be made along the side, through and through if necessary, so the line of least resistance for the infective material is outward. The transverse bands at joint flexions under which the tendons move should never be incised. The day convalescence begins passive movements of the affected finger should be begun and kept up with increasing diligence until entirely healed. Physiotherapy may be added even before the soft tissues are entirely healed.

A limitation in flexion or extension is a permanent disability which too frequently occurs.

*Lumbricale* space infection is sometimes the most deceiving to the inexperienced. One or more spaces may become the seat of purulent infection as a result of the most minor injury anywhere in the region of the proximal phalanx. Or it does apparently develop without the slightest history or evidence of injury.

It not infrequently develops from a callus at palmar base of a finger which per se looks innocent of the cause. Throbbing pain, loss of grasping power because of pain, swelling between the knuckles on back of hand and a definite point of tenderness over area of space by dull point pressure makes the diagnosis.

Elliptical incision, drain (not packing), wet sterile compresses, heat and daily or more often irrigation and aspiration drainage will result in temporary disability of only ten days and no permanent disability. Again ample drainage is essential before infective process is allowed to penetrate into the spaces of the hand.

Many times we have operated on a lumbricale space infection under "Bulgarian" anesthesia (no anesthesia, preparation complete, quick incision), and "nipped in the bud" what may develop in twenty-four hours into a condition that would threaten permanent disability.

*Hand* space infections resulting from puncture or lacerating wounds first develop because of inadequate drainage. Wide incisions (elliptical) with through and through rubber drains, hand soaks, irrigation and aspiration drainage stop the progress and decrease the convalescent period. Passive motion of the fingers all through the period of healing and vigorous physiotherapy will prevent adhesions causing limitation of flexion and extension and permanent disability.

Whenever there is a tendency toward contraction the fingers and wrist should be put up in hyper-extension during the interval between treatments.

*Lacerated Tendons* are the cause of the larger percentage of permanent disability cases of any condition relative to the hand and fingers in our experience. The reason likely is because it takes three weeks for a tendon to heal sufficiently to allow even passive motion with traction on the sutured tendon. Obviously a sutured tendon must be relaxed during healing. If a flexor tendon, the finger during healing is kept flexed, while if it is an extensor, the finger must be kept extended. Now, in order to obtain normal function or the least possible permanent disability the operation must be aseptic. Everything possible must be done to obtain and maintain a clean wound. Allow for fairly secure healing and gradually increase movements at *daily* sessions. Heat and massage with passive and active motion will ultimately result in normalcy.

*Nail Puncture Wounds of the Foot* after cleansing should be probed for direction and depth. A narrow blade bistoury is placed into the wound and incised outward in three directions. The wound should be cauterized with 95 per cent. phenol followed by alcohol, small drain and dry dressing. Seldom is there swelling or pain sufficient to cause even a day and at the most not more than two to four days of temporary disability. This procedure precludes the danger of tetanus.

*Fractures of the Middle and Proximal Phalanges* only need consideration in this paper if they are compound and oblique and over-riding. Buck's extention so applied as to allow for treating soft parts remembering *ample drainage*. The fluoroscope and x-ray will tell when traction is sufficient. Joint movements should be begun the second week—vigorously after the third. Proper physiotherapy treatments will insure normal function in most cases.

*Fracture of the Metacarpal Bones* cause permanent disability principally by healing with an angulation convexly toward the palm. Whether traction is necessary or not the palmar surface should be padded so as to maintain its normal curvature, even at the expense of a convex protrusion posteriorly. An angulation toward the palm or over production of callus on the palmar surface of a metacarpal bone in a laboring man's hand often causes permanent disability from pressure pain.

*Fracture of the Carpal Bones*, especially the navicular, the wrist should be immobilized about three weeks. It has been shown by Kellogg Speed and others that the navicular is the one most frequently fractured. The circulation is disturbed and if not immobilized over a sufficient time there will be non-union and a permanently disabled wrist. Physiotherapy after three weeks will usually restore normal function.

*Fractures of the Wrist*, that is the lower ends of the radius and ulna, should consume no more time than to say that passive movements should be started within a week after reduction, reapplying the splint. Between the second and third weeks the splint may be left off. Vigorous physiotherapy after the third week.

*Fracture of the metatarsals* again is very important in order to avoid permanent disability by avoiding angulations toward the plantar or

walking surface of the foot. If angulation cannot be avoided or over production of callus, be sure it is toward the back or upper part of the foot.

*Dislocations* can usually be reduced by closed method, though finger dislocations in rare instances require open reduction. Joint movement should begin the second week after carefully removing the splint. Replace the splint and repeat the operation tri-weekly. This procedure should not be turned over to an inexperienced assistant.

Antitetanic serum is seldom used because of the unqualified procedure of ample drainage. In deep puncture wounds we inject 1500 units. It has been five years since we have seen a case of tetanus. That case resulted from an unsuspected compound fracture of a finger.

*Burns* cause permanent contraction disabilities much less frequently than in former years. Constant tension opposite to the healing burned area is the essential point. After a destructive third degree burn of considerable extent a pedicle flap skin graft with subcutaneous fat may be necessary to avoid an inevitable contracture.

*In Conclusion* let me say that to obtain the utmost confidence of the patient in you and your treatment is of prime importance. His cooperation is essential. It is next to or almost as important as frequent personal attention of the surgeon himself. A mistake too frequently is made by allowing nurses or unqualified assistants to follow convalescing patients. The lack of specific attention and personal treatment too often results in stiffness, contraction and immobility.

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#### PATHOLOGICAL CONDITIONS FOUND RADIOGRAPHICALLY WHICH ARE OFTEN CONFUSED WITH INJURIES

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In considering a subject which is apropos for this occasion it is difficult to make up one's mind just what should be chosen as it is perplexing to present new facts at this time. However, I have chosen for my subject "Pathological conditions found radiographically which are

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\*Read before Southern Illinois Medical Society.



often confused with injuries." This subject, to my mind, appears to be one of the outstanding difficulties of today, as every clinician and every radiologist has been confronted with this problem.

I shall not attempt to go into the subject of the aggravation of pathological conditions, but shall merely state facts as they have confronted me in my own work. Neither shall I attempt to differentiate between pathological conditions and diseased processes except in cases where the explanation is necessary. Neither shall I attempt to mention all the diseased processes which are confused with traumatic conditions, but just a few which I consider paramount. In a general classification we will consider the following:

1. Hypertrophic osteo-arthritis. The name itself suggests an inflammatory condition involving both bony structure and joint with hypertrophic changes. I consider this the first of the list because it is most frequently confused with trauma or malformation produced by injury, but in a finer analysis of the radiographic study, one finds a marked difference regardless of history, although history should be taken in these cases to give the surgeon an idea whether to suspect a fracture or not.

A. In an injury one usually finds a definite line of fracture which later on, in the healing process, shows a callus in the region of the fracture line which is definitely localized and does not resemble a pathological bone hypertrophy, but it is simply the normal physiological healing process which holds good in most cases, depending, of course, on the location. The reason I refer to location is because there are certain fractures in which we are never able to demonstrate callus at all. Of course, the differentiation is simple; in this case it could not be confused with a hypertrophic change.

B. Hypertrophic osteo-arthritis is usually found to involve more than one joint. It always involves the margin of the synovial cartilage of the joint. This is possibly due to a primary degeneration of the cartilage, which afterwards undergoes an osseous change with hypertrophy. This condition may be localized to one joint, but this is rare. However, if it is found in one joint only, it shows a rather characteristic radiographic picture which can easily be differentiated from a callus thrown out from a fracture.

It was once thought that hypertrophic spondy-

litis was a disease that went hand in hand with old age, but this is not true. We have been able to demonstrate the condition in persons as young as 22 years of age, in which cases there were no histories of injury. I am, therefore, fully convinced that this condition is produced by a focal infection and it is progressive; consequently, as the patient grows older and still carries a focal infection, the disease naturally progresses with age.

I am also further convinced that this condition is in no wise produced by trauma.

2. Sacralized transverse processes. This condition is, of course, congenital and presents a radiographic picture which should not be confused with injury. The condition may be unilateral or bilateral. If unilateral one usually sees a large transverse process on one side whose lower margin almost touches the upper portion of the lateral mass of the sacrum; while on the opposite side this transverse process is absent or in other words, it has fused with the lateral mass of the sacrum to form one solid bony mass. When the sacralization is complete and one bony mass is formed it is easy to differentiate, but there is often a joint at the juncture of the lower portion of the transverse process and the upper portion of the sacrum, which runs at right angles to the long axis of the spine. We will, for convenience's sake, call this a false synchondrosis due to its similarity to the sacro-iliac joint. This joint is often diagnosed a fracture, but it is a congenital condition as described above.

3. Tuberculosis. This disease is often confused with trauma and especially when it involves a joint. The condition, however, presents a characteristic radiographic picture. First of all, there is no line of fracture but what one sees is a cloudy indistinct shadow which usually involves a joint. This condition may be confused with lues, but the history will, in this case, differentiate the two conditions; therefore, tuberculosis has a definite characteristic appearance, radiographically, and in a careful consideration, should not be confused with trauma.

4. Kummel's disease. This is often confused with a compression fracture of one of the vertebrae. It may be found in any portion of the spine, but it is usually in the lower dorsal region. I will not say positively that trauma is not the origin of this condition, but I doubt it seriously. If trauma produces this condition it is evidently

produced in the earlier period of life. But this disease is often found in cases where there is no history of injury at all. The radiograms show a definite narrowing of the body of the vertebrae from above downward; in fact, the vertebrae takes upon itself the form of a small wedge, the apex of which points forward. No line of fracture can be made out, neither is there any spreading of the body substance.

Contrary to Kummel's theory of trauma, I am of the opinion that this condition is produced by some variety of infection (endocrines may play some part). I cannot conceive of a traumatic condition of sufficient force to cut the nutrient artery and yet not produce symptoms which the patient is able to remember. He frequently says he has never had any trouble with his back at all.

5. Hodgkin's disease. This condition, of course, rarely involves bony tissue. I have only seen one such case, but even at that I consider it of enough importance to mention in this connection. Physical examination plus the radiographic findings makes the differentiation easy.

6. Tumors, malignant and non-malignant. First I shall consider malignancy, and let me say here that sometimes the differentiation is very difficult, especially in a case where a patient gives a history of trauma, but the differentiation can be made by taking everything into consideration. Malignancy may be local or it may be a general bone involvement from metastasis. Of course, where there is a metastatic process, the differentiation is simple and need not be confused with trauma. But when the malignancy is a local affair it is often diagnosed injury, and one should take into consideration a few points.

First there is no line of fracture, but usually a large mass which may be differentiated from one type or the other of malignancy. Carcinoma should not be considered as it is always metastatic. Sarcoma: In case of the spindle cell or giant cell, there is no bony production, there being no bony production nor any line of fracture the differentiation is easy. In the periosteal and the osteo-sarcoma there is always a bone production, but they both show characteristic radiographic findings by which the differentiation can be easily made. In the non-malignant types there are the osteoma, the osteo-chondroma and the bone cyst. The bone cyst, of course, shows a definite picture which is characterized by the

enlargement of the medullary canal. No line of fracture. The osteoma shows a definite enlargement of the bone which is usually an oval-shaped mass growing from the cortex, with no line of fracture. The osteo-chondroma is usually located near a joint and is composed both of cartilaginous and osseous tissue. In other words, it presents a radiographic picture somewhat irregular, naturally its variation in density depends upon the specific gravity of the tissues which form it, i. e., bone and cartilage. It is characteristic and shows no line of fracture. This is usually the type of bone tumor in which pathological fractures are seen.

7. Syphilis. This produces a characteristic radiographic picture with no line of fracture. Periosteum is always involved, usually thickened, honey-combed, with punched-out areas in the bone itself. The history usually makes the differentiation in connection with the radiographic findings.

8. Osteomyelitis. This is characteristic, usually involving the periosteum in its earlier stages and the bone itself later on. It is always confined to the shaft of the bone. No line of fracture.

9. Atrophy or osteoporosis, from disuse or infection. This is a true absorption of the bone. It may be brought about from disuse due to disturbance in the circulation of the blood supply of the bone; or it may be brought about by infection. It must be remembered, however, that there is a general atrophy from old age; this is general however throughout the entire bony structure of the body and should not be confused with localized osteoporosis from either disuse or infection. They both present characteristic radiographic findings, and no line of fracture can be made out.

The disuse atrophy is frequently seen in bones in cases where patient has been treated for a fracture and the part has been left in splint too long, for instance a person may be treated for a fractured hip and show a disuse atrophy of the ankle. This should never be confused with trauma.

10. Osteomalacia. This condition is more frequent in females than males. It is as a rule general and characteristic. The bone absorbs in striations, so to speak, the striations running parallel to the long axis of the shaft. No line of fracture can be seen. The cause of the condi-



tion is unknown but it is evidently not produced by trauma; it is often associated with pregnancy, but when localized areas are examined, it is often diagnosed as an injury.

11. *Ostitis*. This is an inflammatory condition of the bone as the name implies. Apparently there is no involvement of the periosteum, but it is confined truly to the cortex. This may be specific or non-specific. It is difficult to differentiate from an x-ray standpoint between the two. The radiograms in both instances show a characteristic picture, they show eaten out areas or areas of bone absorption. No line of fracture can be demonstrated in these cases.

12. *Spondylolisthesis*. This condition in its mildest form is often overlooked and often cannot be made out by physical examination, and naturally must be an x-ray diagnosis unless the case is so pronounced that it is obvious. There is no line of fracture. The x-ray shows that one of the lower lumbar vertebrae, usually the last one, has slipped forward. In its first stage, the upper portion of the sacrum goes with it, making a marked lordosis in this region. In the more advanced stage, the vertebrae slips entirely in front of the sacrum, the sacrum then tilts backward. This in my opinion is a congenital affair, as to my personal knowledge there are cases in which patients have never known that they had the condition until it was discovered in a routine x-ray examination. The examination being made for some other condition and this condition, of course, is discovered accidentally.

This paper is not written in the form of a criticism. It is written rather to call attention to some of the real problems which confront roentgenologists, as well as the examining physicians, and on which points they should have better understanding and, if possible, much closer co-operation.

## APPENDICITIS COMPLICATING PREGNANCY

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Appendicitis is frequent and doubly significant during the child-bearing period. It, not uncommonly, complicates and unfavorably influences pregnancy; at times, it provokes the premature

termination of gestation. Appendicitis occurring during gestation can prove fatal to the mother, to the fetus, or to both mother and fetus. It is well deserving of study by the gynecologist, the obstetrician and the surgeon. All the various grades and varieties of appendicitis—primary or secondary, acute, subacute, chronic or recurrent catarrhal, ulcerative, suppurative, gangrenous, perforative or adherent—and its various complications and sequelae, adhesion formation, abscess formation or peritonitis, localized or generalized, occur during gestation. The morbidity and mortality of appendicitis is greater in the pregnant than in the non-pregnant. Early and correct diagnosis, followed by immediate appropriate and skilful surgical relief, will reduce both the morbidity and the mortality of the disease under consideration.

This contribution is an analytical study of all the operative cases of appendicitis associated with gestation, intra- and extra-uterine, reported in the English, French and German medical literature from 1916 to 1926 inclusive.\* In the *ILLINOIS MEDICAL JOURNAL*, April 1917, xxxi, 215, I published a similar study of 173 operative cases of appendicitis associated with pregnancy, reported from 1900 to 1915 inclusive.

This analysis of 405 cases of appendicitis diagnosed either at the operating table or established by the postmortem findings, amplifies and supplements my previous publication. They occurred in 405 pregnancies, 21 of which were ectopic in location, while the remaining 384 cases were intra-uterine.

Appendicitis complicating the puerperium is not considered in this paper; it imperils only the maternal life and constitutes a separate chapter of appendicitis. Uterine gestation complicated by appendicitis presents two indications: The saving of the fetal life and the saving of the maternal life. Of the two, the latter is paramount.

Cases in which the diagnosis of pregnancy was not fully established at the time of operation were also excluded. Tracy<sup>5</sup> removed an acutely inflamed appendix from a stout nulliparous woman. She had missed her menstrual period for a few days. It was not possible, previous to or at the time of operation, to make a positive diag-

\*All the medical publications that are to be found at the John Crerar Library, Chicago, Ill.

nosis of gestation. Time settled the question; she was delivered at full term.

Cases in which the products of conception were expelled from the uterus previous to the development, diagnosis or surgical intervention for the relief of appendicitis were omitted. In a twenty-one-year-old primipara,<sup>35</sup> labor pains appeared during the ninth month of gestation: the cervix dilated and spontaneous delivery of a non-viable child occurred. The abdominal pain continuing and the general symptoms becoming worse, appendectomy was performed on the following day. Inflammatory products escaped from the abdominal cavity and death of the mother occurred six hours after from general peritonitis. Needless to say that we also excluded cases in which the removed appendices were found, after careful examination, to be normal.<sup>37</sup>

Pus collections, presumably of appendiceal origin, evacuated by colpotomy were excluded, unless the diseased appendix was exposed to inspection or direct palpation. This explains the omission of cases similar to that reported by Favreau and Chaput<sup>19</sup> in which 500 grammes of dark brownish pus were evacuated by colpotomy. The appendix not having been exposed, the clinical diagnosis of appendicitis was only presumptive and not conclusive.

#### EXTRA-UTERINE PREGNANCY

Extra-uterine gestation, aborted, ruptured or in progress, abdominal or intra-ligamentary, ovarian, tubal or tubo-ovarian, calls for immediate removal of the ectopic fetal sac, irrespective of the age of the pregnancy or of the mother's general condition. This is a life-saving indication. In ectopic pregnancy, the life of the fetus is to be disregarded. Appendicitis, irrespective of type, calls for surgical treatment, ablation of the appendix preferably.

Ectopic pregnancy occurs at all periods of the child-bearing age. Ectopic pregnancy and appendicitis are surgical conditions, each calling for immediate operative relief. When the two conditions coexist, the call for surgery is twofold: The fetal sac and the diseased appendix should be removed at the same sitting. This double removal is the procedure of election; it was instituted in twenty of the cases herein considered and was followed invariably by recovery. Some clinicians follow a different course.

Gore's<sup>21</sup> patient presented the symptoms of appendicitis; the point of greatest tenderness was four inches to the right of the umbilicus and about one inch above. Bimanual examination showed a soft cervix, admitting the tip of one finger. Child's head was felt through the lower uterine segment. Patient complained of excessive fetal movements. During examination, vigorous movements were observed through the abdominal wall. The appendix was removed. On the 7th postoperative day, it was decided, after consultation, to deliver the patient. The patient having been etherized, manual dilatation was begun, and the uterus was found empty. A laparotomy was then performed; the peritoneal cavity contained blood-stained fluid and a large, bluish tumor the size of a six-months pregnant uterus, attached to the right broad ligament by a small twisted pedicle. This sac-tumor had made two complete turns on the axis of its pedicle and had the odor of degenerating blood. The pedicle was clamped, the stump transfixed and ligated, and the tumor removed. Examination of pelvic organs showed uterus in normal position, enlarged to three times its normal size. Left tube and ovary normal. Drainage; abdomen closed in usual manner. Tumor which included the right tube and ovary contained a six-month male fetus, apparently dead for thirty-six or forty hours. In four cases<sup>23, 25, 39</sup> the inflamed appendix and the ruptured fetal (tubal) sac were removed at the same sitting. In these four cases as in all tubal pregnancies that rupture into the peritoneal cavity, peritoneal flooding was present. In three cases<sup>29, 39</sup> of incomplete tubal abortion, the tube, the products of conception and the inflamed appendix were all removed at the same sitting. The appendicitis that coexists with ectopic gestation is usually chronic. All but two patients gave a history of having had previous attacks of appendicitis. In most cases, the appendix was found to be adherent to some adjacent organ or structure: Omentum, right tube and ovary, uterus, or urinary bladder.

*Age.* Appendicitis occurs at all periods of the child-bearing age; its incidence is possible in any gestation, first, subsequent or last, uterine or extra-uterine, single, twin or multiple. In the cases herein analyzed, the age incidence is reported as follows:



From 15 to 20 years.....	46 cases
From 21 to 25 years.....	107 cases
From 26 to 30 years.....	100 cases
From 31 to 35 years.....	63 cases
From 36 to 40 years.....	25 cases
From 41 to 45 years.....	3 cases
46 years.....	1 case
Age not stated.....	60 cases

In the above cases, the age stated is that of the patient at the time of operation. The three youngest patients were 15 years (one-32) and 16 years (two cases) of age, respectively. One of the last two patients was operated on after the acute symptoms had subsided;<sup>25</sup> the other, during the acute attack.<sup>39</sup> The oldest patient was 46 years of age.<sup>39</sup>

No relation was observed to exist during gestation between the age of the prospective mother and the extent, virulence and outcome of the appendiceal inflammation. More than one-half of the cases occurred between the ages of twenty-one and thirty, inclusive.

PREGNANCIES

Primipara .....	86 cases
II-parae .....	143 cases
III-parae .....	74 cases
IV-parae .....	6 cases
V-parae .....	4 cases
VI-parae .....	2 cases
VIII-parae .....	2 cases
IX-parae .....	1 case
Multiparae .....	2 cases
Not stated .....	135 cases

One patient<sup>8</sup> presenting a five-month-pregnant myomatous uterus, had never had any living children, but had had two miscarriages. Another patient was a three-month-pregnant multipara.<sup>9</sup> In 135 cases, the reporters do not state whether their patients had previously been pregnant. In 143 cases, over one-half of the cases in which the number of pregnancies is reported, the inflamed appendix was removed in the second gestation. Seventy-four cases occurred in III-parae.

*Period of Gestation.* The more advanced the gestation, the greater the probability of its interruption in the presence of appendicitis. It is hard to establish the exact age of a gestation; it is equally difficult to determine the age of the fetus at the time the symptoms of appendicitis first become manifest. Appendicitis occurs at all periods of gestation. In our collected cases, the maximal frequency was observed during the second (64 cases), third (83 cases) and fourth month (75 cases). It is rare in the last few weeks of pregnancy. The subjoined table shows

the age of the pregnancy at the time of operative relief of the appendicitis.

1st month .....	8 cases
2nd month .....	64 cases
3rd month .....	82 cases
4th month .....	75 cases
5th month .....	44 cases
6th month .....	42 cases
7th month .....	23 cases
8th month .....	25 cases
9th month .....	11 cases
10th month .....	5 cases
Not stated .....	25 cases

In case 12, an appendectomy was performed during the active stage of labor. The first day of last menstruation and the descent of the uterus in the thirty-eighth week indicated that the expectant date would lie between July 15 and 20. The symptoms of appendiceal disturbance began on the 15th. On the same day, the patient began to complain of definite, infrequent and irregular girdle pains, beginning in the "small of the back" and migrating forward and downward to the hypogastrium. Examination revealed a beginning dilatation of the cervix. On the 17th, the appendix in the pre-perforative stage of gangrene and containing two drams of pus was removed. Nine hours after operation, labor was complete.

*Pathology.* The appendix, in the gravid or non-gravid state, often presents variations in size, length, mobility, location and contour which are not without influence on the course of appendicitis. Not uncommonly, old or new inflammatory adhesions bind the appendix to contiguous organs; these adhesions may be so firm and so extensive as to make the operative procedure tedious and difficult. Chronic appendicitis is often productive of adhesions that interfere with the enlargement of the uterus, with its emergence from the pelvis, with the uterine contractions at time of labor. These adhesions play an important rôle in the etiology of oophoritis, abortion, subinvolution and extra-uterine pregnancy.

Associated conditions not infrequently occur. They antedate or complicate the appendicitis and aggravate the prognosis. Salpingitis, unilateral or bilateral, was noted by Jerlov<sup>32</sup> in at least 15 per cent. of the cases; ovarian tumors: dermoid,<sup>37</sup> papillary and other cysts<sup>39</sup> are not uncommon. Case 3 presented, in addition to the appendicitis and the gestation, an ovarian dermoid cyst four inches in diameter, containing sebaceous material, six teeth and some hair; case

7 presented a man's-head sized ovarian tumor. All varieties of ovarian tumor, dermoid cyst in particular, may complicate pregnancy. They call for immediate operative removal, because they increase the probability of abortion and may hinder delivery. Ovarian tumors and cystomata may be the seat of torsion, gangrene from pressure, rupture and suppuration and can determine accidents fatal to the mother and to the fetus.<sup>7</sup>

Inflammation has manifold manifestations and various terminations. It terminates either in resolution, fibroid thickening, ulceration, suppuration or gangrene. An inflammation involving the whole thickness of the wall of a hollow viscus, such as the appendix, may result in perforation. Because inflamed appendices present various grades of inflammation, classifications based upon the preponderating lesion lack precision. When gangrene was the preponderating lesion, the appendicitis was classified as gangrenous; if a perforation existed, the appendicitis was classified as perforative.

Many serviceable classifications of appendicitis have been proposed. We have adopted the following, though conscious of its shortcomings:

Acute catarrhal, with or without ulceration.....	108 cases
Acute suppurative without abscess formation.....	3 cases
Acute suppurative with abscess formation.....	7 cases
Acute suppurative with circumscribed suppurative peritonitis .....	70 cases
Acute suppurative with diffuse suppurative peritonitis. .	28 cases
Acute gangrenous .....	52 cases
Acute gangrenous with abscess formation.....	1 case
Acute gangrenous with diffuse peritonitis.....	1 case
Acute perforative .....	5 cases
Acute perforative with gangrene.....	3 cases
Acute appendicitis and acute gonorrheal salpingitis with peritonitis <sup>6</sup> .....	1 case
Chronic with adhesion formation.....	14 cases
Chronic without adhesion formation.....	11 cases
Chronic: No mention made of the presence of adhesions .....	66 cases
Too briefly reported.....	35 cases

In the suppurative form, the pus was present either in the lumen of the appendix,<sup>12</sup> in its wall or in the form of a peri-<sup>23</sup> or para-appendiceal<sup>3</sup> abscess. Several retro-cecal abscesses are reported.<sup>16</sup> "Large appendiceal abscess extending above to the navel and beyond the mid-line."<sup>10</sup> The appendix may be adherent to the posterior abdominal wall,<sup>3</sup> to the ascending colon,<sup>30</sup> to the right adnexa and uterus,<sup>7</sup> to the right tube,<sup>39</sup> to a fetal cyst,<sup>25</sup> to the omentum, intestine and tube,<sup>23</sup> may be buried in inflammatory tissue,<sup>6</sup> etc.

In operating on cases of appendicitis, one notices the presence of a peritoneal exudate, local-

ized or diffuse, varying in quantity and in nature in different cases: Serous,<sup>29</sup> serous with numerous flocculi,<sup>6</sup> purulent,<sup>22</sup> etc.

**Diagnosis.** Appendicitis occurring during gestation often offers diagnostic difficulties not present in the non-gravid state. Mild attacks are often misdiagnosed; they are mistaken for the digestive disturbances incident to the onset of pregnancy or for some of the other discomforts of gestation, such as can be caused by congestion of the ovaries, stretching of the uterine ligaments, etc.

According to the acuteness and duration of the symptoms presented by each individual case, 279 cases were acute and 91 chronic; in 35 cases the reports are incomplete and do not permit exact classification.

The symptoms of appendicitis in the gravid state are those of the disease in the non-gravid state, with variations determined by the age of the pregnancy, the fetal movements, the changed abdominal conditions, etc. Coincident pathological conditions modify and blur the clinical picture. Pyelitis (unilateral<sup>37</sup> or bilateral<sup>36</sup>) is reported as having coexisted in a few cases.

During pregnancy, especially from the fourth to the seventh month, pain in the right iliac region is common. Not infrequently it is due to traction exerted on peritoneal bands and adhesions by the enlarging uterus. The ascending uterus can displace the colon, cecum and appendix upward<sup>32</sup> (six cases), forward or backward and outward. The upward, forward or backward and outward displacement of the cecum and appendix occurs only in a fraction of the cases; it interferes with proper drainage of the appendiceal region and, in the later months of pregnancy, is of diagnostic and operative concern. Adhesions due to a previous inflammation bind down the appendix, limit its mobility and prevent its displacement. Abdominal pain must not be misinterpreted; its importance must not be misjudged. Pain and digestive disturbances call for proper recognition and interpretation. A patient should neither be subjected to the dangers of a needless operation nor deprived of the benefits of an indicated one. In appendicitis, the site of maximal pain and tenderness always corresponds to the location of the appendix<sup>10, 12, 15, 19, 21, 24</sup> etc. If the latter be a pelvic organ,



the site of the pain is pelvic; if an abdominal organ, the pain is abdominal.

In the non-gravid female, the appendix has been found in all parts of the pelvic and abdominal cavities; in pregnant women, variations of location are less uncommon. The appendix has been found in the right lumbar region,<sup>16</sup> in the left side of pelvis,<sup>5</sup> immediately beneath the liver.<sup>27</sup>

The initial pain is felt in the upper abdomen or epigastrium;<sup>15</sup> in most cases, it becomes gradually localized to the location of the diseased appendix,<sup>20</sup> usually, the right iliac quadrant. In the acute forms, the pain is sharp and lancinating in character and frequently radiates down the right thigh. In the subacute and chronic forms, it is more of a constant dull ache. It may intermit.

The most reliable symptoms are: Localized pain, localized tenderness, and localized muscular rigidity over the region of the appendix, usually, the right lower abdominal quadrant. The symptoms: Fever, rapid pulse, chills;<sup>9</sup> leucocytosis, nausea and vomiting are of less diagnostic value, because they are frequently absent in early cases, occur in many other disturbances incident to the period of gestation, and are characteristic only after the infection has begun to spread. If perforation occurs or pus collects, palpation usually detects a tumor mass. In appendicitis, abdominal pressure so made over the descending colon as to force gas toward the head of the cecum, increases the pain (Rovsing). It is most important to elicit a careful history and to obtain an accurate report of previous attacks. Patients who, prior to gestation, have had appendicitis treated non-operatively suffer, more or less, disturbance in the appendiceal region during pregnancy. One hundred and sixty-three cases gave a history of one or more previous attacks<sup>3, 4, 6</sup> etc. The value of leucocytosis as a diagnostic aid is lessened by the fact that, in pregnancy, a leucocyte count up to 12,000 is not pathologic. Nevertheless, a high leucocytosis with a high polymorphonuclear count, if associated with other symptoms of appendicitis, is very suggestive of the existence of the disease. We find reported a leucocytosis of 16,000 with 87 per cent. polynuclear,<sup>32</sup> of 18,000,<sup>18</sup> of 22,000,<sup>24</sup> or 23,500.<sup>22</sup>

In the latter months of pregnancy, an early

and correct diagnosis may prove, at times, very difficult, especially when the appendix is displaced immediately beneath the liver. Diseases of the gall-bladder, of the right kidney, of the stomach, of the liver, of the uterine adnexa simulate appendicitis and confuse the clinician. All these affections must be considered and excluded. In many cases the clinician must be satisfied with a probable diagnosis. Valuable time may be lost in attempting to make an exact differential diagnosis. Careful and repeated examinations of the catheterized urine from each kidney show the presence or absence of unilateral or bilateral pyelitis. In the presence of pyelitis, one notes pyuria, bacteriuria and sensitiveness to pressure of the affected kidney or kidneys.

If appendicitis be mistakenly diagnosed ectopic pregnancy or vice versa, the mistake is negligible as both conditions call for immediate surgical relief, the first step of which, in both cases, is abdominal section and inspection and palpation of the existing pathology. Exploratory laparotomy finds here an urgent indication.

When adnexal and appendiceal disease coexist, accurate diagnosis is more difficult. They may be of separate and independent origin or secondary one to the other; the pathological process extending by continuity or contiguity of tissue, or by lymphatic or vascular routes. Vagino-abdominal examination aids in differentiating a diseased appendix from adnexa the seat of inflammatory, cystic or neoplastic changes.

*Prognosis.* There is no fixed relation between the severity of the symptoms presented by the patient and the existing anatomical lesions; therefore, it is difficult to make an exact pre-operative prognosis as to fetal and as to maternal life.

Appendicitis is a dangerous disease. Many cases, apparently mild at the onset, prove fatal. The safety of the mother, be the case acute or chronic, is best assured by an early and immediate removal of the appendix and by non-interruption of gestation. It is universally admitted that early recognition and immediate operation holds forth a far better prognosis for the mother and for the gestation. Generally speaking, the less advanced the gestation, the less likelihood of appendectomy being followed by interruption of pregnancy. Operate, if possible, before the occurrence of suppuration, gangrene or perforation and thereby forestall the

development of serious complications. After the fifth month of pregnancy, the operative difficulties are increased: The uterus occupies the larger part of the abdominal cavity, suppuration is more frequent, adequate drainage is more difficult to secure. "Drainage was necessary; abortion followed two weeks after operation."<sup>22</sup> In the appendicitis of the later periods of gestation, tympanites, when present, interferes more with respiration and intestinal obstruction is of not uncommon occurrence. There is increased vascularity and marked lymphatic dilatation of the peri- and para-appendiceal region; phlebitis and thrombosis are more prone to develop; the pus shows a tendency to burrow more widely and there is less likelihood of encapsulation. The omentum and small intestines in this later period cannot as easily protect the appendix.

During gestation, the prognosis of appendicitis is influenced by many factors. Other factors being equal, the morbidity of this condition is more varied and its mortality higher in the pregnant than in the non-pregnant. The pregnant female is an individual of lessened resistance to infectious and toxemic processes; this lessened resistance is most noticeable in the later periods of pregnancy and in the presence of a virulent infection.

The pregnant uterus reacts unfavorably on the chronically inflamed appendix; likewise, an acutely inflamed appendix may so disturb the pregnant uterus as to induce abortion and thereby subject the patient to the combined morbidity of uterine abortion and appendiceal inflammation. Appendicitis may initiate abortion previous to, during or after the removal of the appendix. The mother and the fetus may live; the fetus may live and the mother die; the fetus may die and the mother live, or both may die; in some cases, the fetus may be dead previous to operation,<sup>32</sup> and in some cases, the mothers have died undelivered.<sup>32</sup>

Abortion may result from infection conveyed to the ovum either by the maternal blood or the lymphatic vessels, by the mucosa and submucosa of one or both tubes and the uterus. Abortion, induced or spontaneous, is always an aggravating factor.

The important difference existing between clinical recovery and anatomical recovery must not be ignored. It is that difference that impels

us to advocate early operation. The efforts of the uterus to expel its contents may rupture encapsulated abscesses, tear adhesions limiting the spread of the infection and relight slumbering inflammatory processes. To avoid such disastrous accidents and the general peritonitis resulting therefrom, operate on all your cases of appendicitis, and operate on them early.

There were 32 maternal deaths. They can be attributed to the virulence of the infection, the advanced age of the pregnancy, the late recognition of the disease, the occurrence of abortion and premature labor, and, especially, the tardy and inappropriate surgical relief (8 month pregnancy, operation on 9th day after onset of appendicitis;<sup>25</sup> 7 month pregnancy<sup>36</sup>). The most common cause of death was diffuse peritonitis.<sup>10</sup> Case 26 was in the 8th month of gestation. She was delivered of a living but non-viable six-month infant four weeks after operation and died on the ninety-first postoperative day. One case<sup>36</sup> died on the forty-seventh postoperative day of acute pulmonary edema. In a patient<sup>36</sup> the blood showed, on the fifth postoperative day, streptococci hemolytici. She died on the sixth postoperative day. Some of the thirty-two deaths were due to complicating coexisting conditions: Placenta praevia totalis (child died during delivery)<sup>18</sup> and consequent hemorrhage.

Three hundred and seventy-three patients recovered from the appendicitis and from the operation; they were restored to normal health. In the early months of gestation, a skilfully performed appendectomy is rarely followed by interruption of gestation. Abortion, miscarriage or premature labor are due either to some complication of the appendicitis or to some adventitious cause and may occur irrespective of the operation employed. With the advent of peritonitis or other serious complication, abortion is not improbable. In the latter months, it is difficult to avoid disturbing the uterus, and the operation may contribute to the untimely termination of the pregnancy. Operation does not jeopardize the mother's life; appendicitis does.

In the twenty-one cases of ectopic pregnancy, the products of conception and the appendix were removed at the same operative sitting. In two hundred and five cases, despite the operation, the appendicitis and its complications or sequelae, a living child was born. In eleven



cases, including one<sup>11</sup> in which cesarean section and appendectomy were performed at the same sitting, no mention is made of the state or viability of the child.

Premature labor, the expulsion of a fetus at or after the age of viability, is recorded in seventy-one cases. It may occur on the day of operation, on the day following,<sup>15</sup> several days later or "four weeks after operation."<sup>26</sup> A few were induced by the medical attendant, for syphilis, pelvic contraction, albuminuria,<sup>9, 32</sup> etc. Most always, the premature labor was spontaneous, being due, in part either to the operation, the infection, some associated pathological condition (ovarian cyst,<sup>39</sup> nephritis, pyelitis,<sup>36</sup> etc.), or to the combination of various factors. In almost all of the premature labors, the baby died. "Baby died from apnea;"<sup>12</sup> "infant lived but twelve hours;"<sup>16</sup> "child died after a few respiratory movements."<sup>22</sup> Jerlov<sup>32</sup> records nine living children in fifty-two interrupted gestations following appendectomy.

In ninety-two cases, either abortion or miscarriage followed, earlier or later, the operation. It is most always a clinical manifestation of severe maternal infection and therefore is more frequently observed after late operations and in individuals of lowered resistance. In septic abortion cases, the raw uterine cavity and its thrombosed gaping vessels increase the dangers of spreading infection. Some cases aborted shortly after operation: 12 hours,<sup>30</sup> second day,<sup>5</sup> on the fourth day,<sup>10</sup> five days,<sup>37</sup> others, as long as two weeks,<sup>2</sup> etc. Case 5, eight weeks pregnant, was operated on at one sitting for acute appendicitis and acute gonorrheal salpingitis. She did not wish the gestation to continue. She miscarried after being discharged from the hospital. In case 8, fifteen days after operation, a five-month fetus was expelled. There coexisted an appendicitis and a massive fibroid encircling the lower half of the uterus and extending up to the umbilicus.

*Treatment.* Be the patient pregnant or non-pregnant, the curative treatment of appendicitis is operative in nature. Palliative measures have a wide field of usefulness, but only as pre- and postoperative adjuvants. We know of no valid contra-indication to operative treatment. Women of child-bearing age who have had one or more attacks of appendicitis non-operatively treated, should, at the earliest possible time, submit to

removal of the appendix. A pregnant woman whose metabolism is normal is a good surgical risk.

The importance of early and timely operation cannot be overemphasized. The appendix should be removed before it has ruptured. The earlier the appendectomy, the less advanced the pathology, the greater the probability of the patient's uneventful recovery. It is not possible to foresee the outcome of a non-operatively treated appendicitis, therefore the wisest course is to remove the diseased appendix, if feasible. Delay in operating permits the development of complications that are beyond the control of the surgeon. It has often proven disastrous. In cases of suspected appendicitis, do not wait for a positive diagnosis. When in doubt, you are amply justified in performing an exploratory laparotomy, exposing the appendix and removing it. If a condition amenable to surgical correction is encountered, the exploratory laparotomy is serviceable. The harm resulting from the removal of a healthy appendix is negligible.

Interruption of gestation has no place in the treatment of appendicitis complicating uterine pregnancy. The surgeon should remove the diseased appendix, reduce to a minimum all intra-abdominal manipulations, and see that the gestation be undisturbed. Prolonged traumatizing search for the appendix is to be avoided. Should the delivery of the appendix entail the tearing of protective adhesions and the spreading of the infection, limit the operative procedure to drainage of the appendiceal and other infected regions.

Appendicitis complicating gestation presents to the clinician two paramount indications: The removal of the diseased appendix and the non-interruption of gestation. The attendant should strive to have the pregnancy continue undisturbed. It will not be amiss to tell the patient that, despite the operation, abortion or premature labor may occur, but that it is more probable if the case be treated non-operatively. The probability of cessation of gestation increases with the severity of the infection.

Previous to ascertaining by inspection the nature and extent of the diseased process, one cannot decide what operative procedure is indicated in the case at hand. Operate as rapidly as consistent with the indications and the patient's safety. Reduce all handling of the abdominal organs to a minimum.

If, despite all precautions, postoperative abortion occurs, endeavor to secure the spontaneous emptying of the uterus by tamponade, quinine, pituitrin, etc. Avoid all needless manipulation and instrumentation of the uterus.

Appendectomy is almost always an emergency operation; its technique is simple and easy of execution. Any physician of ordinary experience and skill should be conversant with its performance. When feasible, the center of the incision should correspond to the point of maximal pain and tenderness. We frequently employ the grid-iron incision, well to the side. The muscles are split, not cut; thus the abdominal wall is not weakened and is able to withstand the distention incident to pregnancy and the muscular strain accompanying labor.

Septic complications tax the diagnostic and therapeutic skill of the doctor. They prolong convalescence, and often put the already weakened resistance of the patient to a severe test. In complicated cases, the incision must of necessity be longer, the trauma is greater and the postoperative shock more marked than in cases of moderate severity.

Appendicitis occurring within several days of the expected time of labor, influences the obstetrician's choice of method of delivery. It may be necessary to resort to vaginal or abdominal cesarean section. The coexistence of complicating conditions—an exhausted mother, a contracted pelvis, placenta praevia—may require unusual measures.

The removal of the uterus is a needless mutilation and is never indicated in well-managed cases. Hysterectomy, complete or incomplete, is a difficult operation and should not be undertaken by one of limited surgical experience.

The authors refer to drainage in 188 cases: It was used in 119 and omitted in 69 cases. Some operators used cigarette drains,<sup>11</sup> a few, rubber tubing,<sup>12</sup> others, a glass-tube,<sup>13</sup> and many, wicks of gauze. Drainage when indicated is serviceable. It has disadvantages; it has dangers. Its indiscriminate use is to be condemned. The enlarged uterus makes the maintenance of adequate drainage difficult. It must be discontinued as soon as the discharge becomes scanty and serous. The gauze, glass or rubber tubing, cigarette drain, or other agents of drainage should not impinge, should not irritate the uterus. Its use

is always indicated in para- and peri-appendicular abscesses, in suppurative peritonitis, localized or diffuse, and whenever the peritoneal exudate is copious. The use of drainage, at times, leads to adhesion formation; intestinal obstruction<sup>14</sup> may result therefrom. Other objections are that it is occasionally followed by a fecal fistula,<sup>15</sup> by a postoperative hernia,<sup>2, 4</sup> etc. If in doubt as to the need of drainage, do not drain.

In 243 cases, the time of operation, with reference to the onset of illness, is not stated. In the remaining 162 cases, it can be tabulated as follows:

Time of operation after onset of illness	Number of cases	Number of maternal deaths	Abortions
			or pre- mature labor
Within 24 hours.....	36	1	7
Within 48 hours.....	35	1	16
Within 72 hours.....	77	26	43
From the 4th day to the 6th day, inclusive .....	8	1	1
On 9th day of disease.....	2	2	2
On 10th day of disease.....	2	0	0
One month after.....	2	0	0
Total .....	162	31	69

The above table demonstrates the importance of early and timely operation from both the maternal and the fetal standpoint. Early operation curtails the morbidity and is rarely followed by death of the mother. Involvement of the internal genitalia in the appendiceal inflammation predisposes to abortion.

The operative procedures resorted to admit of the following tabulation:

IN THE UTERINE PREGNANCIES

	Cases	Deaths	Abortions
			or pre- mature labors
Appendectomy .....	373	32	159
Appendectomy and removal of an ovarian tumor .....	3	0	0
Appendectomy and Cesarean section..	1	0	0
Appendectomy and vaginal section..	1	0	0
Appendectomy and removal of one tube, or of one tube and ovary...	5	0	1
Appendectomy and sub-total hyste- rectomy .....	1	0	1
Total .....	384	32	163

IN THE EXTRA-UTERINE PREGNANCIES

	Cases	Deaths
Appendectomy and removal of fetal sac and tube and ovary of corresponding side at same sitting .....	20	0
Appendectomy; 7 days later removal of ec- topic fetal sac.....	1	0
Total .....	21	0



Some of the patients were operated on under local anesthesia, some under splanchnic and local anesthesia combined,<sup>18</sup> others under spinal anesthesia,<sup>23</sup> and almost all were subjected to general anesthesia, such as gas oxygen,<sup>11</sup> ethylene,<sup>24</sup> chloroform<sup>12</sup> and ether.

Most of the cases, with few exceptions, made an uneventful recovery. In one case,<sup>10</sup> the patient aborted on the fourth postoperative day and had a stormy convalescence. "During the twelve weeks of her stay at the hospital, she had pyelitis on both sides, first on the right and then on the left. She had phlebitis in the femoral and popliteal veins, first on the left side, then on the right. She was very ill several times during her long sepsis; but a secondary laparotomy with good nursing and with repeated irrigations of the kidney pelvis through urethral catheters, finally saved her. After six months, she has regained her color and her weight and is in perfect health."

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#### CATARACT

#### THE CHOICE OF OPERATION FOR SENILE CATARACT\*

OSCAR B. NUGENT, M. D.

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#### CHICAGO

Visual results following any form of cataract extraction depends on many factors: the presence or lack of diseased conditions of the eye, the physical condition and age of the patient, the amount of traumatism at the time of operation, the completeness with which the cataract has been removed at the time of operation, and the skill of the operator, all play their part in the final results.

The novice in cataract work usually selects the capsulotomy method because of its simplicity;

\*Read before Section on Eye, Ear, Nose and Throat, Illinois State Medical Society, Moline, June 1, 1927.

being willing to risk the chances of secondary cataract and post-operative inflammation, rather than run the risk of vitreous loss which he fears will occur if the intracapsular operation is attempted.

Many experienced operators have given the intracapsular operation a trial without a good understanding of the technique. Some in only a few, others in a great number of cases, with the result that some have entirely discontinued the intracapsular and gone back to the capsulotomy operation; others use the intracapsular method for certain cases only, and still others use it as a routine.

Doubtless each operator has some reason for using the operation of his choice. It may be that he has chosen it from observed experiences of other operators; or it may be a matter of his personal opinion based upon his own past experience. Then again there may not have been any opportunity to learn the various forms of extraction by actual experience or of observing the results obtained from them. The operator therefore continues with the form of extraction of his original choice.

In order to be able to give an unbiased opinion of the value of each form of cataract extraction it is necessary to have a thorough knowledge of the techniques of each form, a clear understanding of the advantages and disadvantages attending each form, and the possible results obtainable therefrom.

*The Intracapsular Method:* A glance through the literature indicates very strongly that the intracapsular method of extraction is gaining ground over the capsulotomy method. Last year (1926) the percentage of papers for capsulotomy was 43.5% and for intracapsular 56.5%.

From the above it is evident that the trend of opinion in ophthalmology is toward the intracapsular operation and justly so because most every operator, regardless of whether or not he is employing the intracapsular extraction, concedes it to be the operation of choice if successfully performed. In this regard Holland<sup>1</sup> says: "My reasons for changing from the capsulotomy to the intracapsular method were because it was not necessary to wait until the cataracts were ripe and there is less postoperative inflammation;

needlings only in some of the burst capsules and in the end, better results are obtained."

*Some Points in Cataract Extraction:* Let us disregard for a while the forms of cataract extraction and consider the value of a few of the various steps in cataract operation:

1. *Anesthesia:* In recent years deep anesthesia or a more complete anesthesia of both the superficial and deeper parts has been quite generally accepted. The writer saw clinicians anesthetizing the deep structures of the orbit in almost every clinic in Europe visited. Dumphy<sup>2</sup> of Boston, has mentioned it as a safeguard against vitreous loss. It is also advisable, according to Jacquban,<sup>3</sup> to use it in cases of unruly and nervous patients. Green,<sup>4</sup> Fisher<sup>5</sup> and many others are using it.

*Paralysis of the Orbicular Muscles* (With Novocain) is of great value to prevent vitreous loss and iris and vitreous prolapse. Barraquer<sup>5</sup> uses it as a routine. Fisher<sup>6</sup> describes it as being of value. Poyales of Madrid,<sup>6</sup> Spain, injects 9cc of a 2% solution of novocain in three different places with good results. Prof. Vila Coro<sup>6</sup> of Barcelona, Spain, after three instillations of 4% cocain at 5 minute intervals and 5 minutes after the last instillation uses one installation of a 50% cocain solution in 1 to 1000 adrenalin solution.

2. *Lid Control:* Fisher,<sup>7</sup> Smith,<sup>18</sup> Green,<sup>8</sup> Obarrio,<sup>9</sup> Vail, Crossley and others have mentioned the value of lid hooks as a measure to avoid vitreous loss.

3. *Dilatation of the Pupil:* This can be accomplished by insertion of an ointment of 5% cocain and 5% euphthalmine<sup>5</sup> between the lids two hours before operation and repeated in one hour. Two hours will usually give sufficient dilation to the pupil so that the lens can be removed through it without iridectomy.

4. *Incision:* The corneal incision is easily made but cannot be conveniently sutured after the operation so as to assist in preventing vitreous loss. The corneo-scleral incision heals much better because it is made in vascular tissue. The corneo-scleral incision with a conjunctival flap is of great value to insure better healing; and, according to Bulson,<sup>10</sup> Green,<sup>40</sup> Fisher,<sup>11</sup> Verhoff,<sup>12</sup> Wordeman,<sup>13</sup> Van Lint,<sup>41</sup> Elschmig,<sup>14</sup> Salva,<sup>16</sup> Jocqs,<sup>15</sup> Barraquer,<sup>5</sup> White,<sup>16</sup> and others,



iris and vitreous prolapse and vitreous loss are lessened by suturing the flap.

5. *Peripheral Iridectomy*: A peripheral iridectomy allows a free flow of aqueous from the posterior to the anterior chamber and it still retains a round pupil. This can be performed just before or after the lens delivery. It would appear from Parker's paper,<sup>17</sup> read before the Ophthalmic section A. M. A. this year, that astigmatism is greater where an iridectomy is performed; he gave percentages as follows: In combined extraction where iridectomy is performed the average degree of astigmatism was 2.6 dioptries and in a simple extraction where no iridectomy was performed it was 1.9% dioptries.

6. *Complete Iridectomy*: A complete iridectomy is not necessary in cases where there is a complete or full dilatation of the pupil. It is not necessary for delivery of the lens, except in spoon delivery, and without it the eye is left in a more normal state.

7. *Lens Extraction*: This can be accomplished by expression or traction or by a combination of both. If done with capsulotomy, postoperative inflammation very often follows. Smith,<sup>18</sup> Fisher,<sup>18</sup> Holland,<sup>18</sup> Barraquer,<sup>18</sup> Wright<sup>18</sup> and others maintain that a burst capsule is a complication and tends to lessen visual acuity and causes post-operative inflammation. If then a burst capsule which is left in the eye after operation is a complication in intracapsular operations, then it should also be considered a complication in the capsulotomy operation. Schirner,<sup>19</sup> Uhlenhuth,<sup>20</sup> Krauss, Doerr and Lohma,<sup>21</sup> Lagrange and Lacosta,<sup>22</sup> Straub,<sup>23</sup> Fisher,<sup>7</sup> Verhoff and Lemoine,<sup>24</sup> Lemoine and Macdonald,<sup>25</sup> Gifford,<sup>26</sup> Holland,<sup>27</sup> Nugent<sup>28</sup> and others have emphasized the dangers of retained cortical following cataract extraction. Post-operative cataract often occurs when the capsule is retained, due to the fact that the growth originates from the cells in the anterior capsule.

8. *Intracapsular Extraction*. Extraction by expression without capsulotomy can be performed with or without iridectomy. If the pupil is sufficiently dilated, expression can be performed without iridectomy of any sort, but it is better to perform a peripheral iridectomy for reasons above stated. This operation is of great advantage, because of the round, central, active pupil which results.

Extraction by traction can be accomplished with forceps, as described by Knapp,<sup>30</sup> or suction, (Barraquer,<sup>5</sup>) (Green<sup>40</sup>) and either with or without peripheral or complete iridectomy.

Extraction by a combination of traction and expression can be accomplished both when traction is produced by forceps or suction and is an ideal method of cataract extraction. The writer performed 137 extractions in Holland's clinic, Shikarpur, India, by the combination of suction and expression with the following results:

Loss of vitreous—2 or 1.5%.

Failure due to slipping of erisifaco—2 or 1.5%.

Ruptured Capsule,—4 or 3%.

*Results of Different Methods of Extraction*: In 1914 Dr. W. A. Fisher reported twelve intracapsular operations with an average visual result of 20/25; next year in 1915, he reported fifty intracapsular<sup>32</sup> operations with good results; again a little later he reported ninety-four<sup>33</sup> consecutive intracapsular operations with equally good results. Cruickshank<sup>34</sup> reported percentages of non-improvement by the intracapsular method at 5.5% and by the capsulotomy method at 9/9%; he<sup>35</sup> also reports 92% good visual results in his report of 115 cataract operations by the Barraquer method with only 3% unsuccessful cases due to accidents during the operation. Hartshorne<sup>36</sup> reports nine cases operated on by facoerisis with visual results from 20/15 to 20/40. Woodruff reported his first six cases as successful. Greeves<sup>37</sup> and Moore each reported a series of cases performed by the Barraquer method with fair results. Howard<sup>35</sup> of Pekin says: "It must be admitted that intracapsular extraction entails greater danger from loss of vitreous than does the old classic type of operation. Yet the results of the former in uncomplicated cases are so immediately good that one feels constrained to do it whenever possible." Elschmig<sup>39</sup> says: "I do feel that I am justified now in saying that the Barraquer operation is by far the best method of extraction within the capsule. The writer visited Dr. Elschmig at his clinic in Prague last December and watched him operate. His routine is the intracapsular operation. In Holland's clinic in India, the largest operative eye clinic in the world, the intracapsular method of extraction is performed as a routine. And among other operators whom the writer personally knows who

do the intracapsular operation for senile cataract as a routine are Smith of London, Barraquer and Vila Coro of Barcelona, Spain, Green of San Francisco, Knapp of New York, Fisher of Chicago, Poyales of Madrid, Spain, Millett of Dayton, Vail of Cincinnati, and others.

### CONCLUSIONS

It is my conviction that the following outline of operative procedure is the highest type of surgical technique for the purpose of producing the best surgical and clinical results for all forms of senile cataract.

**Anesthesia:** Instillations of 4% solution of cocain at 5 minute intervals for corneal anesthesia and deep intraorbital injections of novocain for anesthesia to the deeper parts; or 50% cocain in 1 to 1000 adrenalin solution, according to Vila Coro.

**Pupil Dilatation:** By the use of an ointment of 5% cocain and euphthalmine two hours before operation.

**Lid Control:** Lid Hooks held by a trained assistant.

**Incision:** Corneo-scleral with conjunctival flap.

**Iridectomy:** Peripheral iridectomy for the purpose of preventing iris prolapse.

**Lens Extraction:** The lens should be extracted in capsule through a well dilated pupil. The method of extraction can be either by expression or traction, (forceps or suction) or a combination of both.

**Toilet:** Suturing of the conjunctival flap and use of 1% eserine ointment. Also suturing of the lids.

**Dressings:** Light dressings without pressure.

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## A CASE OF PURULENT INFECTION OF THE CHEST: ITS DIAGNOSIS AND TREATMENT\*

CHARLES LARKIN CONROY, M. D.,

CHICAGO

The patient, a woman, aged 42, entered St. Francis Hospital, February 26, 1925, with a history that five weeks previously she was taken ill with pain in the lower right chest anteriorly, shortness of breath, temperature and cough. Five days before admission in a severe coughing spell, she became very dyspneic and raised a quantity of greyish purulent material with increased pain in the lower right chest.

Physical examination of the chest showed dull tympany over middle lobe anteriorly and dulness, increased fremitus and many rales posteriorly; distant bronchovesicular breathing. Apparently there was an aspiration pneumonia of the lower lobe, with an abscess either in the middle lobe or in the upper part of the lower lobe. Fluoroscopic examination revealed right lower and middle lobes hazy, right costophrenic and cardiophrenic angles obscured. On March 4 Dr. Conroy aspirated the chest and then under local anesthetic resected a section of the eighth rib in the anterior axillary line, evacuating from 500 to 750 c.c. of thick purulent material. One rubber drain was inserted. She left the hospital March 26 much improved in general health but she still raised the same purulent material, although less in amount.

On August 10 she re-entered the hospital with the history of having had a persistent cough since her previous entry and the raising of blood stained purulent sputum was accompanied by chills and fever. Under local anesthetic the pleura was reopened and some bloody, purulent material evacuated. Three months later she returned to the hospital with the history of having coughed almost continuously since August. The sputum contained long chained streptococci. Bronchoscopy by Dr. G. W. Boot showed considerable muco pus in the trachea and right bronchi but no blood or fistula present. On November 17 the first step of a serial rib resection was done. The anterior one-third of the right sixth, seventh and eighth ribs was resected without en-

tering the pleural cavity. She made a good recovery. She has gained 8 pounds, coughs very little and is much more cheerful. The second step will be carried out very shortly.

### "TEN COMMANDMENTS FOR THE 'COMMON DOCTOR'"

Thou shalt have no favorites in newspaper correspondents in order to see thy name in print.

Thou shalt not bow down to graft, nor to the image of gold.

Thou shalt hold thy tongue when sued for malpractice, remembering silence is golden and that thy adversary is after thy gold and will get it if thou art not discreet.

Remember the Sabbath day and keep it holy; six days shalt thou labor and on the seventh also, if thou hast an opportunity to do good or the prospect of a good fee.

Honor the fathers of thy profession, that thy days may be long upon the land and thy usefulness lengthened, through the example and achievements of thy fathers.

Thou shalt not sanction adultery nor produce an abortion.

Thou shalt not steal thy brother's patients nor forgive him when he steals thine.

Thou shalt not kill thy brother's opportunity for earning a living, nor murder his chance of usefulness. He, probably, is thy superior.

Thou shalt not bear false witness against thy neighbor, nor speak evil of his good name. His reputation may be better than thine.

Thou shalt not covet the specialist's fee, nor dispute over a division. Let him have all the money; he may think he earned it. You must be content with glory.

—W. W. Brown, *Virginia Medical Monthly*.

## Society Proceedings

### INTER-STATE POST GRADUATE ASSEMBLY OF NORTH AMERICA

*Kansas City, Mo., October 17-20, 1927*

*First day, Monday, October 17, 7 A. M.*

Diagnostic Clinic (Gynecological), Dr. Irvin Abell, professor of Clinical Surgery, University of Louisville Medical Department, Louisville, Ky.

Diagnostic Clinic (Pediatric), Dr. Alan Brown, Professor of Pediatrics, University of Toronto, Faculty of Medicine, Toronto, Canada.

Diagnostic Clinic (Surgical), Mr. John S. McArdle, F.R.C.S.I., Professor of Surgery, University College, Dublin, Ireland.

#### *Intermission—View Exhibits*

Diagnostic Clinic (Pediatric), Dr. McKim Marriott, Dean and Professor of Pediatrics, Washington University School of Medicine, St. Louis, Mo.

Diagnostic Clinic (Gynecological), Dr. William B. Hendry, Professor of Obstetrics and Gynecology, Uni-

\*Presentation of Clinical Cases before North Shore Branch Chicago Medical Society, March, 1926.

versity of Toronto, Faculty of Medicine, Toronto, Canada.

Diagnostic Clinic (Medical), Dr. Edward Strecker, Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia, Pa.

*Afternoon Session—1 P. M.*

Diagnostic Clinic (Medical), Dr. Otto J. Kauffman, Professor of Medicine, University of Birmingham, Birmingham, England.

GYNECOLOGY AND OBSTETRICS—SYMPOSIUM

The Bleeding Uterus, Dr. Irvin Abell, Professor of Clinical Surgery, University of Louisville Medical Department, Louisville, Ky.

The Significance of Abdominal Pain in Gynecological Conditions, Dr. William B. Hendry, Professor of Obstetrics and Gynecology, University of Toronto, Faculty of Medicine, Toronto, Canada.

The Modern Trend in Midwifery and Gynecology, Dr. R. P. Ranken Lyle, Professor of Obstetrics and Gynecology, University of Durham, Newcastle-upon-Tyne, England.

(Subject to be announced), Dr. Ersilio Ferroni, Professor of Obstetrics and Gynecology, University of Florence, Florence, Italy.

*Intermission—View Exhibits*

The Particular Features of Italian Gynecology and Obstetrics, Dr. Luigi Mangiagalli, Dean and Professor of Obstetrics and Gynecology, Royal Clinical Institute, Milan, Italy.

The Mechanism of the Migration of the Ovum and the Etiology of Tubal Pregnancy with Special Reference to the Origin of Indirect Migration, Prof. Pasquale Sfameni, Rector of the Royal University and Director of the Obstetric-Gynecological Clinic, Bologna, Italy.

PEDIATRICS—SYMPOSIUM

The Daily Variation of Sunlight and its Effect on Growth and Resistance to Disease, Dr. Alan Brown, Professor of Pediatrics, University of Toronto, Faculty of Medicine, Toronto, Canada.

The Sequelae of Acute Infectious Diseases in Children with Special Reference to Their Effect Upon the Kidneys, Dr. McKim Marriott, Dean and Professor of Pediatrics, Washington University School of Medicine, St. Louis, Mo.

The Significance of Basal Metabolism in Children, Dr. Fritz B. Talbot, Clinical Professor of Pediatrics, Medical School of Harvard University, Boston, Mass.

(Subject to be announced), Professor Adolphe Maffei, Chief of the Hospital Service and Head of the Surgical Department of the Pediatric Clinic, University of Brussels, Brussels, Belgium.

*Evening Session—7 P. M.*

The Importance of Examination of the Spine in the Presence of Intrathoracic or Abdominal Pain, Dr. John Phillips, Assistant Professor of Therapeutics, Western Reserve University, School of Medicine; Director, Cleveland Clinic, Cleveland, Ohio.

(Subject to be announced), Mr. John S. McArdle, F.R.C.S.I., Professor of Surgery, University College, Dublin, Ireland.

The Relation of Focal Infections to Certain Systemic Conditions, Dr. Charles H. Neilson, Professor of Medicine, St. Louis University School of Medicine, St. Louis, Mo.

Factors Fundamental to the Healing of Tuberculosis, Dr. Francis M. Pottenger, Monrovia, Calif.

Some Problems in the Etiology of Heart Failure, Sir John F. H. Broadbent, F.R.C.P., London, England.

Poliomyelitis, Dr. Milton J. Rosenau, Professor of Preventive Medicine and Hygiene, Medical School of Harvard University, Boston, Mass.

New Investigations on the Physiology and Chemistry of the Male and Female Hormones, Dr. Sigmund Frankel, Professor of Experimental Medicine, Imperial Royal University of Vienna, Vienna, Austria.

*Second Day, Tuesday, October 18, 7 A. M.*

Diagnostic Clinic (Surgical), Dr. Arthur Dean Bevan, Professor of Surgery, Rush Medical College, Chicago, Illinois.

Diagnostic Clinic (Medical), Dr. Elliott P. Joslin, Professor of Clinical Medicine, Medical School of Harvard University, Boston, Mass.

Diagnostic Clinic (Pediatric), Dr. Fritz B. Talbot, Clinical Professor of Pediatrics, Medical School of Harvard University, Boston, Mass.

*Intermission—View Exhibits*

Diagnostic Clinic (Surgical), Dr. William D. Haggard, Professor of Clinical Surgery, Vanderbilt University, School of Medicine, Nashville, Tenn.

Diagnostic Clinic (Surgical), Dr. Dean Lewis, Professor of Surgery, Johns Hopkins University, Medical Department, Baltimore, Md.

Diagnostic Clinic (Surgical), Dr. Nathaniel Allison, Professor of Orthopedic Surgery, Medical School of Harvard University, Boston, Mass.

*Afternoon Session—1 P. M.*

Diagnostic Clinic (Gynecological), Dr. R. P. Ranken Lyle, Professor of Obstetrics and Gynecology, University of Durham, Newcastle-upon-Tyne, England.

DISEASES OF THE STOMACH—SYMPOSIUM

The Early Diagnosis and Radical Operative Treatment of Carcinoma of the Stomach, Dr. Arthur Dean Bevan, Professor of Surgery, Rush Medical College, Chicago, Illinois.

The Significance of Gastric Hemorrhage, Dr. Frank Smithies, Professor of Medicine, Northwestern University Medical School, Chicago, Illinois.

The Surgical Treatment of Gastric Ulcers, with Special Reference to the Massive Ulcers, Mr. Garnett Wright, F.R.C.S., Honorary Surgeon, Salford Royal Hospital; Lecturer in Surgical Pathology, Victoria University, Manchester, England.

The Relation of Cancer of the Stomach to Ulcer, Dr. Alfred S. Warthin, Professor of Pathology, University of Michigan, Ann Arbor, Mich.



*Intermission—View Exhibits*

## DIABETES—SYMPOSIUM

The Liberation of Insulin and the Relation of this Hormone to the Other Internal Secretions, Dr. C. H. Best, Associate Professor of Medical Research, University of Toronto, Faculty of Medicine, Toronto, Canada.

The Ten Year Diabetic—What He Should Be and How It Can Be Brought About, Dr. Elliott P. Joslin, Professor of Clinical Medicine, Medical School of Harvard University, Boston, Mass.

Hyperthyroidism and Diabetes, Dr. Henry J. John, Cleveland Clinic, Cleveland, Ohio.

Renal Factors in Diabetic Coma, Dr. I. Snapper, Professor of Pathology, University of Amsterdam, Amsterdam, Holland.

The Relation of Focal Infections to Pancreatic Function with Special Reference to the Etiology of Diabetes, Dr. John C. Meakins, Professor of Medicine, McGill University, Faculty of Medicine, Montreal, Canada.

*Evening Session—7 P. M.*

The Psychoses of Different Age Periods, Dr. Edward Strecker, Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia, Pa.

## DISEASES OF THE BONES AND JOINTS—SYMPOSIUM

Early Operation with Early Function in Certain Types of Fracture, Dr. Nathaniel Allison, Professor of Orthopedic Surgery, Medical School of Harvard University, Boston, Mass.

Acute Non-Tuberculous Ilio-Psoas Infections, Dr. Leroy Long, Dean and Professor of Surgery, University of Oklahoma, School of Medicine, Oklahoma City, Oklahoma.

Osteomyelitis, Dr. Dean Lewis, Professor of Surgery, Johns Hopkins University, Medical Department, Baltimore, Md.

Trauma of the Knee-Joint, Dr. John J. Moorhead, Professor of Surgery, New York Post Graduate Medical School, New York, N. Y.

New Ways of Dealing With Fractures and Injuries of Articulations With Special Consideration of Their Functional Treatment (moving pictures), Dr. Fritz Steinmann, Professor of Orthopedic Surgery, University of Berne, Berne, Switzerland.

*Third Day, Wednesday, October 19, 7 A. M.*

Diagnostic Clinic (Surgical), Dr. Frank H. Lahey, Boston, Mass.

Diagnostic Clinic (Medical), Dr. Charles A. Elliott, Professor of Medicine, Northwestern University, School of Medicine, Chicago, Illinois.

Diagnostic Clinic (Neurosurgical), Dr. A. W. Adson, Associate Professor of Surgery, University of Minnesota, Post-Graduate School of Medicine, Mayo Foundation, Rochester, Minn., and Dr. Harry L. Parker, Consulting Neurologist, Mayo Clinic, Rochester, Minn.

*Intermission—View Exhibits*

Diagnostic Clinic (Surgical), Dr. Walter E. Dandy, Professor of Clinical Surgery, Johns Hopkins Uni-

versity, Medical Department, Baltimore, Md.

Diagnostic Clinic (Medical), Dr. James H. Means, Professor of Clinical Medicine, Medical School of Harvard University, Boston, Mass.

Diagnostic Clinic (Surgical), Dr. Robert S. Dinsmore, Cleveland Clinic, Cleveland, Ohio.

*Afternoon Session—1 P. M.*

## THYROID GLAND—SYMPOSIUM

The Malignant Thyroid, Dr. Allan Graham, Assistant Professor of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

End Results of Radiation Therapy in the Treatment of Carcinoma of the Thyroid Gland, Dr. U. V. Portmann, Cleveland Clinic, Cleveland, Ohio.

The Technique of Thyroidectomy, Dr. Frank H. Lahey, Boston, Mass.

Iodin in the Management of Goiter Patients, Dr. Clarence G. Toland, Los Angeles, Calif.

*Intermission—View Exhibits*

Cardiac Disturbances Associated with Hyperthyroidism, Dr. Charles A. Elliott, Professor of Medicine, Northwestern University, School of Medicine, Chicago, Ill.

Parathyreoprival Tetany, J. B. Collip, Ph.D., D.Sc., Professor of Biochemistry, University of Alberta, Edmonton, Canada.

A New Method of Surgical Treatment of Stenosis of the Larynx, Professor E. Schmiegelow, Professor of Otolaryngology, University of Copenhagen, Copenhagen, Denmark.

Tabetic Atrophy of the Optic Nerves, Professor Carl Behr, Hamburg, Germany.

Pernicious Anemia With Special Reference to Treatment With High Protein Diet, Dr. Clarence M. Grigsby, Professor of Medicine, Baylor University, Dallas, Texas.

*Evening Session—7 P. M.*

Vagaries of Skin, Sir John Bland-Sutton, F.R.C.S., London, England.

## CANCER—SYMPOSIUM

The Danger of Incomplete Removal of Small and Apparently Innocent Lesions, Dr. Joseph C. Bloodgood, Associate Professor of Clinical Surgery, Johns Hopkins University, Medical Department, Baltimore, Md.

The Treatment of Laryngeal Carcinoma, Dr. Fielding O. Lewis, Professor of Laryngology, Jefferson Medical College, Philadelphia, Pa.

The X-ray Treatment of Epithelioma of the Face, Dr. James M. Martin, Professor of Roentgenology, Baylor University, College of Medicine, Dallas, Texas.

## INTESTINES—SYMPOSIUM

Appendicitis, Dr. Jabez Jackson, President, American Medical Association, Kansas City, Mo.

The Management of Acute and Sub-Acute Intestinal Obstruction, Dr. William D. Haggard, Professor of Clinical Surgery, Vanderbilt University, School of Medicine, Nashville, Tenn.

The Mechanism of the Physiological Cecal Block

and a Suggestion of a Simple Surgical Treatment, Dr. Rea E. Smith, Los Angeles, Calif.

*Fourth Day, Thursday, October 20, 7 A. M.*

Diagnostic Clinic (Medical), Dr. Harlow Brooks, Professor of Clinical Medicine, University and Bellevue Medical College, New York, N. Y.

Diagnostic Clinic (Medical), Dr. Leonard G. Rowntree, Professor of Medicine, University of Minnesota, Post-Graduate School of Medicine, Mayo Foundation, Rochester, Minn.

Diagnostic Clinic (Surgical), Dr. William E. Lower, Associate Professor of Genito-Urinary Surgery, Western Reserve University, School of Medicine; Director, Cleveland Clinic, Cleveland, Ohio.

*Intermission—View Exhibits*

Diagnostic Clinic (Surgical), Dr. Joseph C. Bloodgood, Associate Professor of Clinical Surgery, Johns Hopkins University, Medical Department, Baltimore, Md.

Diagnostic Clinic (Medical), Dr. David P. Barr, Professor of Medicine, Washington University, School of Medicine, St. Louis, Mo.

Diagnostic Clinic (Laryngological), Dr. Fielding O. Lewis, Professor of Laryngology, Jefferson Medical College, Philadelphia, Pa.

*Afternoon Session—I P. M.*

Diagnostic Clinic, Dr. Hugh Cabot, Dean and Professor of Surgery, University of Michigan, Medical School, Ann Arbor, Michigan.

#### THE LUNGS AND BRONCHIA—SYMPOSIUM

The Treatment of Pneumonia, Dr. Harlow Brooks, Professor of Clinical Medicine, University and Bellevue Medical College, New York, N. Y.

The Significance of Certain Abnormalities of Respiration, Dr. David P. Barr, Professor of Medicine, Washington University, School of Medicine, St. Louis, Mo.

The Role of Bronchoscopy in the Diagnosis and Treatment of Diseases of the Lungs, Dr. Gabriel Tucker, Associate Professor of Bronchoscopy and Esophagoscopy, Graduate School of Medicine of the University of Pennsylvania, Philadelphia, Pa.

Bronchospirochetosis, Dr. Guiseppe Franchini, Professor of Pathology, Royal University of Bologna, Bologna, Italy.

*Intermission—View Exhibits*

#### URINARY SYSTEM—SYMPOSIUM

Silent Lesions of the Upper Urinary Tract, Dr. William E. Lower, Associate Professor of Genito-Urinary Surgery, Western Reserve University, School of Medicine; Director, Cleveland Clinic, Cleveland, Ohio.

Infections of the Urinary Tract, Dr. Hugh Cabot, Dean and Professor of Surgery, University of Michigan, Medical School, Ann Arbor, Michigan.

Transplantation of the Ureters, Dr. Robert C. Coffey, Portland, Oregon.

*Evening Session—7 P. M.*

The Combat Against Leprosy, Dr. Paul Unna, Hamburg, Germany.

The Other Page of the Ledger—Mortality in Operations, Dr. John F. Erdmann, Professor of Surgery, New York Post-Graduate Medical School, New York, N. Y.

(Subject to be announced), Dr. J. Marinho, Professor of Clinical Oto-Rhino-Laryngology, Rio de Janeiro, Brazil.

(Subject to be announced), Dr. Charles H. Mayo, Professor of Surgery, University of Minnesota Medical School, Rochester, Minn.

#### BRAIN AND CENTRAL NERVOUS SYSTEM—SYMPOSIUM

The Results of Sympathectomy in the Treatment of Raynaud's and Buerger's Disease, Dr. A. W. Adson, Associate Professor of Surgery, University of Minnesota, Post-Graduate School of Medicine, Mayo Foundation, Rochester, Minn.

Anatomy and Clinical Importance of the Ear Findings in the Neurological Symptom Complex, Dr. Gustav Alexander, Professor of Diseases of the Ear, University of Vienna, Vienna, Austria.

The Treatment of Tic Douloureux, Dr. Walter E. Dandy, Johns Hopkins University, Medical Department, Baltimore, Md.

*Fifth Day, Friday, October 21, 7 A. M.*

Diagnostic Clinic (Surgical), Dr. E. Starr Judd, Professor of Surgery, University of Minnesota, Post-Graduate School of Medicine, Mayo Foundation, Rochester, Minn.

Diagnostic Clinic (Medical), Dr. Frederick J. Kalteyer, Associate Professor of Medicine, Jefferson Medical College, Philadelphia, Pa.

Diagnostic Clinic (Surgical), Dr. George W. Crile, Professor Emeritus of Surgery, Western Reserve University, School of Medicine; Director, Cleveland Clinic, Cleveland, Ohio.

*Intermission—View Exhibits*

Diagnostic Clinic (Surgical), Dr. Charles H. Mayo, Professor of Surgery, University of Minnesota Medical School, Rochester, Minn.

Diagnostic Clinic (Medical), Dr. Lewellys F. Barker, Emeritus Professor of Medicine, Johns Hopkins University, Medical Department, Baltimore, Md.

Diagnostic Clinic (Surgical), Dr. John B. Deaver, Emeritus Professor of Surgery, University of Pennsylvania Medical School, Philadelphia, Pa.

*Afternoon Session—I P. M.*

Diagnostic Clinic (Surgical), Dr. John F. Erdmann, Professor of Surgery, New York Post-Graduate Medical School, New York, N. Y.

#### GALL-BLADDER AND LIVER—SYMPOSIUM

The Surgical Treatment of Diseases of the Biliary Tract, Dr. E. Starr Judd, Professor of Surgery, University of Minnesota, Post-Graduate School of Medicine, Mayo Foundation, Rochester, Minn.

The Significance of Jaundice, Dr. John B. Deaver, Emeritus Professor of Surgery, University of Pennsylvania, Medical School, Philadelphia, Pa.

Relation of the Liver to the Surgical Risk in Cases of Gall-Bladder and Duct Disease, Dr. George W.



Crile, Professor Emeritus of Surgery, Western Reserve University, School of Medicine, Director, Cleveland Clinic, Cleveland, Ohio.

The Physiology of the Liver and Gall-Bladder, Dr. Frank C. Mann, Professor of Experimental Surgery and Pathology, University of Minnesota, Post-Graduate School of Medicine, Mayo Foundation, Rochester, Minn.

Present Knowledge Concerning Tests of Liver Function, Dr. Leonard G. Rowntree, Professor of Medicine, University of Minnesota, Post-Graduate School of Medicine, Mayo Foundation, Rochester, Minn.

Differential Diagnosis of Diseases of the Gall-Bladder, Dr. David Riesman, Professor of Clinical Medicine, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

#### HEART AND CIRCULATORY SYSTEM—SYMPOSIUM

Coronary Thrombosis—Incidence, Prevention and Treatment, Dr. Lewellys F. Barker, Emeritus Professor of Medicine, Johns Hopkins University, Medical Department, Baltimore, Md.

Angina Pectoris, Dr. Frederick J. Kalteyer, Associate Professor of Medicine, Jefferson Medical College, Philadelphia, Pa.

Relation of the Endocrines to Certain Circulatory Diseases, Dr. James H. Means, Professor of Clinical Medicine, Medical School of Harvard University, Boston, Mass.

Gastro-Intestinal Auto-Intoxication as a Factor in Nervous Disorders, Dr. Otto J. Kauffman, Professor of Medicine, University of Birmingham, Birmingham, England.

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### Marriages

NELSON HOLE CHESTNUT, Mason City, Ill., to Miss Mildred Holland of New Holland, July 19.

ARTHUR HOBART CONLEY to Miss Josephine Marie Hay, both of Chicago, July 20, at Montreal, Que., Canada.

ROBERT W. ELWORTHY to Miss Florence Hediger, both of Chicago, June 9.

ROY M. MONTFORT to Miss Harriette E. Smith, both of Danville, Ill., July 6.

KENNETH NORMAN PETRI to Miss Esther Hoeflin, both of Washington, Ill., June 23.

WILMIER M. TALBERT to Miss Mary Louise Henry, both of Decatur, Ill., July 2.

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### Personals

Dr. Allan Craig, associate director of the American College of Surgeons, has resigned.

Dr. Herman M. Adler will give an address during the annual meeting of the American Bar

Association, Buffalo, August 30, on "Biologic and Pathologic Aspects of Behavior Disorders."

Dr. Jesse L. McElroy, who recently resigned as superintendent of the University Hospital, Iowa City, has been appointed superintendent of St. Luke's Hospital, Chicago, to succeed Dr. Charles H. Pelton, who goes to Montefiore Hospital, Pittsburgh. Dr. McElroy assumed his new duties July 15.

Dr. Charles C. Rentfro of Chicago sailed on SS. Republic last month with Mrs. Rentfro and twin daughters for a study tour in Europe. After a visit to the Rotunda maternity hospital in Dublin, he planned a trip to Edinburgh. It seems probable that he will investigate the theory of the genesis of twins promulgated by Prof. Crowe of Edinburgh recently at Geneva.

Dr. Joseph L. Miller of Chicago gave an address on "Medical Aspect of Gall Bladder Disease" before the Lee and Ogle County Society meeting at Lowell Park, August 18. Dr. Arthur Dean Bevan presented the subject of "Surgical Aspects." Both addresses were illustrated by lantern slides. Dr. W. B. Peck of Freeport reviewed the coming International meeting of the Interstate Post Graduate Assembly. The meeting in Lowell Park was in picnic style and has been an annual affair since 1921. The beauty of the park and the excellence of the programs always draw a large attendance.

Dr. H. C. Tietze, who for eight years has made his home in Livingston, is planning to make his home in Edwardsville. He will occupy the suite of offices recently occupied by Dr. E. W. Fiegenbaum.

Thomas Williamson has been elected president of the Edwardsville Rotary Club to succeed the late Dr. Fiegenbaum.

Dr. J. H. Wedig of Granite City has been attending surgical clinics at Chicago.

Dr. Mather Pfeifferberger with a party of friends is on vacation at the Jackson Hole country near Yellowstone Park.

Dr. H. P. Reuss of Granite City was the winner in the annual golf tournament held at the Madison County Country Club.

Dr. and Mrs. R. D. Luster, Granite City, are touring Colorado and other western points. They expect to return in about six weeks.

## News Notes

—The Scientific Service Committee will schedule speakers for medical meetings in Illinois. A guaranteed attendance is not required by the Committee.

—The Adams County Medical Society, Quincy, plans an all day meeting for November 14. Three prominent physicians will be the guests of honor.

—The meeting place of the Jackson Park Branch of the Chicago Medical Society will be at the new Albert Merritt Billings Hospital of the University of Chicago at Ellis Avenue on the Midway.

—The state department of health is preparing a health history of Illinois which will be ready for distribution in October at the semi-centennial of the founding of the public health service of the state at Springfield; the history is being edited by Dr. William A. Evans, Chicago.

—A health center is to be established in Des Plaines to serve the northwest section of the county; it will be maintained by county appropriations and will be under the jurisdiction of the county board and the county health director, Dr. Herbert L. Wright, Berwyn.

—Under the auspices of the Chicago Heart Association, a group of about 350 cardiac patients taken from various Cook County Clinics left, July 18, for a summer vacation at Camp Reinberg, Palatine, Ill. The Cook County commissioners are said to have afforded the accommodations for the patients, and to have gradually increased the facilities annually since 1922 from ninety beds to 350.

—The Peoria County Medical Society held its annual picnic, July 21, at the North Shore Country Club, Peoria. A program of sports, including golf, swimming and races, was provided. Following the basket dinner in the evening, a moving picture was presented. Prizes were given to winners of the various contests. Dr. G. Henry Mundt, Chicago, president of the state medical society, gave an address.

—During the first six months of this year, there were fifty-three cases of typhoid and eight deaths in Chicago, whereas in the same period last year, there were forty cases and four deaths,

and in the corresponding period of 1925, 103 cases and twenty-one deaths. The Chicago Department of Health, June 30, had on record forty-six typhoid carriers in the city. The typhoid record last year was the lowest in the history of the city.

—The board of trustees of the University of Chicago announce the promotion to full professorship in pathology of William H. Taliaferro, Ph.D.; to associate professorship in pathology of Maude Slye, and to associate clinical professorships at Rush Medical College of Dr. Joseph L. Baer in obstetrics and gynecology, Dr. Edward A. Oliver in dermatology, and Dr. William G. Reeder in ophthalmology. John F. Norton, Ph.D., has been appointed secretary of the department of hygiene and bacteriology, and Warder C. Allee, Ph.D., secretary of the department of zoology. Arthur H. Compton, Ph.D., professor of physics, has been granted a leave of absence from October 1 to November 10 in order that he may attend the Soliday Congress.

—Two days previous to the annual Illinois Conference on Public Welfare, October 17-18, courses of study will be given for social workers and others concerned with social work. There will be five courses each, consisting of four sessions and costing \$3. Enrollment in each course will be limited, and no one can take more than two courses. Among the instructors will be Dr. Herman M. Adler, director, Institute for Juvenile Research, Chicago, and other instructors who are officers of various national organizations engaged in public welfare work. The subjects of the courses will be: (1) problems of admission, placement and discharge by child-caring institutions and agencies; (2) probation methods; (3) administration of mothers' pensions; (4) mental factors in social case work, and (5) fundamental principles of social case work. Inquiries should be addressed to the chairman, 848 North Dearborn Street, Chicago.

—With the cooperation of the Decatur Medical Society and the local school authorities, the health department of Decatur and the state department of health conducted a thyroid survey of the school children of that city. It was desired to determine the prevalence of thyroid enlargement among the school children, and to



learn whether it was more prevalent in Decatur where the city water was free of iodine than it is in other places where the water supply contains iodine. The survey began February 14 and continued for seven days, and a total of 10,055 pupils was examined. Of this number, 5,338, or 53 per cent, showed some degree of thyroid enlargement; in 36 per cent it was "very slight"; in 15 per cent "slight"; in 0.1 per cent "severe," and in 0.04 per cent "very severe." The fifth grade school children had the largest percentage of normal thyroids; the senior grade the second largest percentage of normal thyroids. The severe and very severe enlargements were most prevalent in the junior grades. The more marked enlargements, as a rule, were found in the higher grades, according to Dr. William S. Keister, the former city health officer, although all grades showed a high percentage of very slight enlargements. Among the white boys and girls, who totaled 9,682, 53.2 per cent showed some degree of thyroid enlargement. Among the colored boys and girls, who totaled 373, 51.2 per cent had some degree of thyroid enlargement. Among the boys, both white and colored, who totaled 5,009, 46.5 per cent showed some degree of thyroid enlargement and among the 5,046 girls, both white and colored, 59.6 per cent showed some degree of thyroid enlargement. Dr. Keister says in the *Illinois Health News* that from these figures it appears that neither color nor sex seems to have a marked influence on the prevalence of enlarged thyroids.

## Deaths

JAMES HENRY ABRAMS, Atwood, Ill.; Rush Medical College, Chicago, 1878; aged 77; died, July 2, of cerebral hemorrhage.

PAUL ACKERMANN, Chicago; Chicago College of Medicine and Surgery, 1910; aged 55; died, July 19, of chronic myocarditis.

WILLIAM HENRY BELLINGER, Peoria, Ill.; Rush Medical College, Chicago, 1895; a Fellow, A. M. A.; aged 56; died, August 5, of heart disease.

JAMES HENRY BLAIR, Lombard, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1897; aged 56; died, July 16, of cirrhosis of the liver.

WILLIAM CARTER GRISWOLD, Princeton, Ill.; Chicago Medical College, 1864; Civil War veteran; aged 87; died, July 20, of senility.

GEORGE WHITEFIELD JOHNSON, Savanna, Ill.; University of Michigan Medical School, Ann Arbor, 1863;

Harvard University Medical School, Boston, 1865; Civil War veteran; local surgeon, C., M. & St. P. and C., B. & Q. R. R.; aged 83; died at Savanna City Hospital, July 25, of cerebral hemorrhage.

ALBERT CHARLES KUBICEK, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1899; a Fellow, A. M. A.; University of Illinois College of Medicine, Chicago, 1901; formerly professor of surgery and surgical anatomy at Bennett Medical College; on the staff of Cook County Hospital; aged 50; died, July 24, of a self-inflicted bullet wound, while suffering from pneumonia.

BIRD MCPHERSON LINNELL, Chicago; Rush Medical College, Chicago, 1893; a Fellow, A. M. A.; associate clinical professor of medicine at his alma mater; served in the army, during the World War; for many years an officer of the Illinois National Guard; formerly on the staffs of the Evangelical Deaconess, Cook County, Chicago General and the Presbyterian hospitals, where he died, August 18, of arthritis and heart disease, aged 61.

JAMES DUKE LYNESS, Savanna, Ill.; Trinity Medical College, Toronto, Ont., Canada, 1901; a Fellow, A. M. A.; aged 58; was found dead in bed, August 4, of heart disease.

LEMUEL PINCKNEY PETERS, Clayton, Ill.; Keokuk (Iowa) Medical College, 1905; a Fellow, A. M. A.; aged 49; died suddenly, July 18, of heart disease.

CLIMENA SERVISS, Chicago; Hahnemann Medical College and Hospital, Chicago, 1896; aged 73; died, July 2, of chronic myocarditis.

WILLIAM C. SPANGENBERG, Chicago; Rush Medical College, Chicago, 1902; a Fellow, A. M. A.; formerly associate professor of gynecology, General Medical College, Chicago; aged 48; died in July, of carcinoma of the liver.

WILLIAM T. WARREN, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1903; aged 62; died, July 29, of septicemia.

JOSEPH WILLIAM WEIS, Manchester, Ill.; Hahnemann Medical College and Hospital, Chicago, 1872; aged 77; died, July 3, of cerebral hemorrhage.

EDWARD WILLIAM FIEGENBAUM, Edwardsville, Ill.; Bellevue Hospital Medical College, New York, 1876; a Fellow, A. M. A.; member of the House of Delegates of the American Medical Association, 1913, 1926 and 1927; past president of the Illinois State Medical Society; secretary and past president of the Madison County Medical Society; for many years member of the school board; aged 73; died, July 28, of heart disease.

ANDREW J. HEDGCOCK, Decatur, Ill.; Northwestern University Medical School, Chicago, 1915; member of Illinois State Medical Society; Fellow A. M. A.; served in the Navy during the World War; member of staff of Decatur, and Macon County Hospital; aged 40; died, August 16, 1927, at Rochester, Minnesota, following an operation for gall stones.

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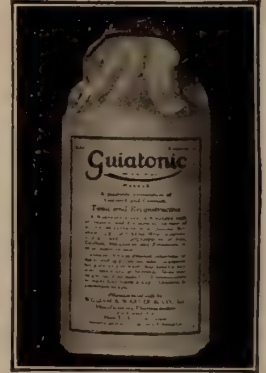


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# ILLINOIS MEDICAL JOURNAL

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## Editorial

### WHAT PRICE CIVILIZATION?

The warning of the Tower of Babel is with us yet. Confusion of tongues is as nothing compared to the price that man is paying for civilization.

To thinkers there is genuine menace in the query "What price civilization?"

The greatest insane asylum in France was used as an object lesson, indirectly speaking, during a lecture given recently in Vienna by Prof. Perrin, manager of the institution. In this talk, Prof. Perrin called the attention of the medical profession to the fact that:

"The majority of patients committed to this asylum meet this consignment through syphilis, alcohol or *the stress of civilization*."

Now a greater percentage of syphilitic patients can be and are cured than was formerly the case, and further prophylaxis and education have minimized the dangers of syphilis, and more alcoholics are cured. But no specific has been found for the influences of civilization. Prof Perrin says:

"Mankind breaks down under the weight of the amazing progress of the sciences.

"Let us compare our physical, chemical or biologic knowledge with the very small amount that a man of average culture and education of 1825 had to know of these subjects: the brain of the modern man is obliged to carry a great deal more. There is as well an astounding difference between the science of a physician of 1825 and that of the present age, referring, of course, in each instance to a well-trained and educated physician. The quantity of knowledge to be appropriate in every branch of science is so immense, that 'universal knowledge' is only a phrase, and we are obliged to specialize in our learning, if we want to fulfill our vocation honestly. Besides these, public and social life have also changed so much, and load such immense burdens on the individuals of our great cities, that we almost col-



lapse under them. Every change in the relations of life that is associated with the progress of civilization imposes new burdens on us continually. How much mental energy is wasted when we cross a street with the enormous traffic of a big city—how much attention we have to pay, and how much excitement we have to endure! When we hurry to catch our train we are wasting, tiring, and milling up our nerves; similarly when we are forced to dodge an automobile, or bus, or a trolley car to get out of its way. Hundreds of years ago men knew nothing about these things. And the worst of all we have small compensation for them. The innumerable small joys of life have expired, our recreations are being spoiled by villages becoming towns and towns growing into cities, with huge traffic. Fifteen years ago an auto trip on a holiday was a joy. Is it today? The resting periods of the modern man who is overstraining his mind from day to day is ever less and less, and the expenses of resting and recreations can be met by the majority of people less and less. We are approaching to that limit beyond which the progress of civilization can be endured only by men with superhuman strength, and the weaker break down; that is to say, they fill the madhouses and become the inmates of the insane asylums, which are already frightfully overcrowded. Mankind has to pay big prices for everything, but the greatest price it has to pay is for the so-called advancement of civilization."

#### MEDICAL MEN RESENT SUBSTITUTE SCIENCE AS OFFERED AT PUBLIC HEALTH CENTERS

That the family physician has no quarrel with public health activities save in that as a scientist his skill and knowledge demand that he shall protest the substitution of amateur manipulation for skilled professionalism, is a point seldom made clear.

A sick man is a sick man whether he gets a heart attack in a "public health center" or in his own bedroom. As such a sick man he deserves the best care that science can give him, and there should be no question but that such care is administered far more finely by a man who devotes his life to such work, rather than by any dabbler or group of dabblers no matter how well-intentioned they may be.

Has the family physician cause for resent-

ment? Examine the activities of public health centers and clinics and those of the family physician. Dr. Harlow Brooks of New York city has phrased it aptly when he remarks as he did in the A. M. A. Journal, that "the medical profession devotes voluntarily from 25 to 45 per cent. of its time to unremunerated personal charities, mostly to that large and generally inarticulate mass of unfortunates that are the secret wards of every medical man. Misunderstandings between the profession and social activities along the line of public health have almost without exception originated when physicians have been asked to abrogate and to forget their scientific training or when their code of ethics has been ruthlessly ignored. There is no more reason why medical ethics may not be applied in public health than in any other specialty in the medical profession. No efforts at progress will succeed until lay organizations are brought to realize that the principles that have made modern medicine and the true physicians of all times, will be upheld."

Where the family physician bases his resentment against public health activities is the course pursued by these activities where nurses presume to do the work of doctors, by making diagnoses and dictating treatment for the family physician to carry out; by the time serving employes of public health departments minimizing the skill and ridiculing the work of the family physician to impressionable school children; wholesale septic vaccinations and other improper practices that are yet within the law; snap diagnosis, insistence upon treatments that are accepted by these inexperienced officials as "law and gospel" while such discoveries are still scientifically merely in an experimental stage.

Co-operation of honest lay bodies is welcome to all physicians. But the tendencies of such organizations to put "the cart before the horse" must be suppressed. For in every angle of the work the doctor must dominate. Such domination has made medical progress possible, and those professional standards that have literally "made medicine" must prevail. Else there shall be chaos and loss.

Public and private medicine must work hand in hand. There is no other sane or successful way to success. The physician in close contact

with his patient is the most successful teacher of public medicine. After all the physician is the mouthpiece of medical science and when any influence belittles the teacher it destroys the doctrine. Public medicine to succeed needs the endorsement of private medicine and must not for an instant attempt to either underestimate the influence of physicians with patients, difficult as that is for a lay person to comprehend, nor to discount its value.

From experience the medical profession believes that a license to practice should be granted only after four more years of study in an accredited school superimposed on a preliminary education of no mean extent or small cost. The public differs, principally because the public does not know. And consequently all manner of cults are backed annually by well intentioned persons of all sorts, from the clergy to philanthropists and even financiers of repute.

A remedy for the deplorable invasion of the terrain of medicine by the misguided ignorant public health movements lies in the work of state, county and district medical societies. In the language of the street, "It is up to them." Each organization and each member of these organizations needs to don sword and buckler, and get into the combat of education of the general public as to the difference between safe and sane and skilled medical service and the visionary, half-baked, and often unethical care that emanates from lay practice and dictation of medicine.

#### FIRST BORN MOST LIKELY TO BE FEEBLE-MINDED—THE REVERSE OF THE OLD THEORY OR BELIEF

A recent survey by the State of Massachusetts of its retarded and mentally deficient public school children shows that feeble-minded tend to be the first or second rather than the last children of a family.

The Massachusetts survey, the first of its kind made by any state in the union, covers 4,040 retarded children and the findings have been reported to the American Psychiatric Association by the director of the Division of mental deficiency of the Massachusetts State Department of Mental Diseases, Dr. Neil A. Dayton of Boston.

The survey was made under a Massachusetts law authorizing the examination of all public

school children who are retarded three or four years in their school studies. Fourteen traveling clinics went through the state for this purpose and Dr. Dayton's report covers the first 4,040 examined. The survey shows clearly that a number of generally accepted ideas regarding the deficient children are untrue.

Of the 4,040 examined 75 per cent. were found to be deficient; 8 per cent. had one or both parents mentally deficient and 3 per cent. had one or both parents mentally diseased; 84 per cent. failed to pass the first grade of school. "It is commonly believed," says Dr. Dayton in his report, "that the feeble-minded are more apt to be the last children born in a family, when the parents are older and less vigorous but this study shows that the feeble-minded tend to be the first or second rather than the last child. The theory of older people having feeble-minded children, receives another set back when we examine the age of the parents. In our series the largest number of parents fall in the age group of twenty-five to twenty-nine years.

"It is also said that the feeble-minded are most apt to occur in large families and that one is apt to find whole families of feeble-minded. In 47 per cent. of our 4,040 cases the patient was the only one of the family to be feeble-minded.

"In 18 per cent. there was one other sibling (brother or sister) feeble-minded; in 1 per cent. two siblings were deficient, and the percentage where there were more than two siblings also feeble-minded were all under 1 per cent.

#### DEFICIENT NOT UNDERSIZE

"Our investigation also disproved the legend that mentally deficient are puny, underweight and undersize. We found no great variations from the national averages. In fact, the trend was for the deficient to be a little taller."

To indicate that the mentally deficient were not necessarily physically deficient, Dr. Dayton related that recently a big school for mentally deficient children had a football team that won five out of eight games with regular high school teams.

The average age of all cases reported on by Dr. Dayton was thirteen years, but their average "mental age" was only eight years.



## EARLY RECOGNITION OF INFANTILE PARALYSIS VITAL NEED

With the infantile paralysis season approaching its zenith, physicians everywhere need to be doubly watchful for the initial symptoms of this appalling invader. Common in every section of the United States and at present semi-epidemic in some communities.

Prompt diagnosis of infantile paralysis is a lengthy step towards its control.

Especially is this true since research towards a specific for this condition has been disappointing, almost futile in results. Best results in treatment are gained by:

1. Early recognition.
2. Isolation of patient.
3. Rest and symptomatic treatment.

Perhaps as good an outline, briefly stated, as is possible to print was contained in an article by Surgeon W. H. Frost of the United States Public Health Service.

"Onset of infantile paralysis is characterized almost invariably by a rise of temperature, and the next most common symptom is gastro-intestinal disturbances. There is general malaise, headache, restlessness and irritability followed by drowsiness with a disinclination to move the body or to be moved. There is a stiffness of the neck and spine, indicated by the position the patient takes in bed and by complaint of pain when the spine is flexed. The tendon reflexes are usually abnormal and there may be marked tremor or ataxia with muscular weakness. The paralysis that occurs usually in two or three days from the onset of illness is a flaccid motor paralysis not accompanied by loss of sensation. The legs are more frequently affected than the arms; occasionally the muscles of the palate are affected, or the visional muscles or the external rectus muscles of the eye. In fatal cases, death is due to paralysis of the muscles of respiration usually preceded by progressive paralysis of the extremities.

Further, according to Dr. Frost, "the cases of infantile paralysis may be classified as 1. those with characteristic paralysis; 2. those without paralysis but exhibiting symptoms indicative of meningeal irritation and usually of minor disturbance of motor centers, the so-called abortive cases, and 3. those which have symptoms similar

to the initial symptoms of known cases of infantile paralysis but without definite indications of involvement of the central nervous system such cases are common. The specific infection is, perhaps, as prevalent as measles, but that it rarely gives rise to the disease, the more usual result being the establishment of immunity without the manifestation of recognizable symptoms.

In a recent issue of the *Ohio Health News* the advisory board of the division of charities of the state department of public welfare of Ohio, discussing treatment in the acute stage, suggests:

"Efforts must be directed toward limiting the extent of injury by placing the patient at rest as completely as possible. Massage of the paralyzed muscles is harmful. *Rest is the most important thing of all in the acute stage of the disease.* When the convalescent stage begins, usually in about six weeks, gentle massage and passive movement may be used, but they are capable of doing harm as well as good. A trained orthopedic surgeon at this stage should be consulted to lay out a plan of treatment. *Manipulations practiced by chiropractors and other cults should be avoided absolutely.* There is every reason to believe that rough handling of the spine will render impossible the recovery of some affected tissue which otherwise would take place. Not only are the patients injured by the manipulations of cults, but those things are omitted which may be expected to prevent the occurrence of deformity."

Diagnosis may usually be established by lumbar puncture, but this should be attempted only by one skilled in its technic and then only after consideration as to whether the benefit will justify the procedure, according to Dr. Frost.

## BENEFITS OF VIVISECTION

### SCOURGE OF YELLOW FEVER LESSENED BY RESULTS OF VIVISECTION

Anti-vivisectionists stand confuted when confronted by results of the research that these propagandists condemn from a fallacious hypothesis.

A flood of literature and oratory deluges the country from the anti-vivisectionists. At present the especial target is California, Oregon and western sections of the United States.

To animal experimentation is due seventy-five per cent. at least, if not practically all of the tremendous advance made in the last fifty years

in the prolongation of life and the alleviation of human suffering.

Smallpox, diphtheria, and contagious diseases in general are striking illustrations. And in this group stands conspicuously no less a scourge than yellow fever.

Yellow fever is one of the most deadly diseases to which human beings are subject. Peculiar to the American continent, tropical America was its great stronghold. It existed perpetually in Havana and from there frequently invaded the United States, sometimes as far north as Boston. In 1878, only 49 years ago, an epidemic of yellow fever in the southern cities resulted in 16,000 deaths and an economic loss estimated at \$100,000,000.

At the close of the Spanish-American War in 1898, Havana came into our possession. In the following year yellow fever broke out among the American soldiers there. A commission appointed to look into its cause and transmission was composed of Major Walter Reed, Dr. James Carroll, Dr. J. W. Lazear and Aristides Agramonte.

Major Reed decided to investigate a theory advanced by Dr. Carlos H. Finley twenty years before that the disease was transmitted by mosquitoes. *The only way of proving or disproving this theory was by animal experimentation.* At that time the lower animals were thought to be immune to yellow fever, so if the experiments were to be tried at all, it must be on human beings. Volunteers were called for and the Commissioners insisted that they themselves should be included. Every man knew that he was likely to die, but he also knew that in so doing he might save thousands of his fellow men from death. The volunteers permitted themselves to be bitten by mosquitoes which had previously bitten yellow fever patients. Lazear was one of the first and he soon became ill with yellow fever and died in convulsions. Carroll almost died; for three days his life hung in the balance. The experiment was continued on eleven other men, and as nine of them contracted yellow fever, Reed felt justified in saying that the disease was carried by mosquitoes.

Still there were many men who were not convinced. Reed and his associates decided to repeat the experiments under conditions which would leave no doubt that the results were con-

clusive. In a lonely place, a mile from the nearest habitations, they established an experimental station, and placed an armed guard around it. It was named Camp Lazear. An immune hospital steward brought supplies from Camp Columbia, but no other intercourse with the town was permitted. A small frame building was put up, and screened to prevent mosquitoes from getting in or out. The interior was divided into two apartments, separated by wire mosquito netting. Two susceptible men were put into this building, one in each compartment, and there they remained for several days, subjected in every way to the same conditions. When they had lived there in good health long enough to prove that there could be no infection, Reed put fifteen infected mosquitoes into one of the compartments, and presently declared that compartment to be infected. When the man in the infected compartment had been bitten by mosquitoes, Reed took him out, but returned him for a short time later in the day and again on the following day, until altogether he had been bitten fifteen times. Meanwhile two men were left in the compartment which contained no mosquitoes. These men remained perfectly well, but in four days the man who had been bitten went down with yellow fever.

Reed, after simply removing the fifteen mosquitoes declared the infected compartment disinfected. A non-immune soldier was then placed in each compartment and the two remained perfectly well for several days.

Even the skeptics now admitted that yellow fever could be transmitted by mosquitoes, but they still maintained that this was not the only means of transmission. The volunteers then submitted to a further series of most unpleasant experiments, and finally proved conclusively that yellow fever is not contagious and that it is transmitted only by mosquitoes.

There followed a vigorous war upon mosquitoes. They were killed by wholesale by fumigation and their breeding places sought out and destroyed. In seven months Havana was free from yellow fever for the first time in 140 years.

A few years later, General William C. Gorgas started a similar campaign in the Panama Canal Zone and within twelve months abolished yellow fever there and made possible the building of the Panama Canal. This deadly disease with



a few others had cost the French 22,189 human lives—one of the chief reasons why the French abandoned the canal project.

Who will say that Reed and Lazear and their brave associates paid too high a price for this enormous saving of life? Who will say that they should not have risked their lives to save millions from suffering and death? Have not right minded people always honored those who have given their lives for others? If we honor the soldier who dies to save his company—a wounded comrade perhaps—how shall we honor Lazear, who died to save a hundred thousand men? There is a modest tablet to his memory in Johns Hopkins University, and a great hospital in Washington bears the name of Walter Reed. But the service these men rendered to humanity is beyond estimate and beyond reward. And if the bodies of men like this are not too sacred to dedicate to such work as they performed, is it too much to ask that the bodies of dogs, rats or rabbits or guinea pigs shall be dedicated to work of equal importance?

#### ENGLAND'S LOW CRIME STATISTICS

The following from the August number of *AMERICAN MEDICINE* is highly educational. We quote:

"The low crime figures of England, as compared with other civilized countries, and notably as compared with the United States, have been for years a subject of discussion and observation, and the explanations offered have been various. None thus far has seemed to come so close to the root of the problem as the explanation offered by Judge Horace Stern, of the Common Pleas Court of Philadelphia, who has been making an intense study of crime conditions in England. On the eve of leaving London for a wide tour of the continent, where he will continue his observation of crime conditions, Judge Stern issued the following statement, which our Paris correspondent thinks important enough to transmit to the readers of *AMERICAN MEDICINE*:

"The absence of crime in England, as compared with that in the United States," said Judge Stern, "is a well known fact, and it is largely with a view to finding out what the explanation is, that I have come to Europe.

"In England crime is not a problem. The answer lies in what one might call neighborhood

restraint. The English people often live in the same house their ancestors lived in; they belong to the same clubs and organizations, and attend the same church. Moreover, they realize that their children will in all probability live in the same locality. Hence, the individual feels obliged to be circumspect in his conduct, as a misstep would bring disgrace not only upon himself, but upon his family.

"In the United States, on the other hand, a family lives in one street today, in another tomorrow, and the next day perhaps moves to make its home in a distant city. Such residents are thus hardly known even by their immediate neighbors, and the neighbors' opinion is not a source of restraint to contemplated wrong-doing.

"The courts in England, moreover, operate more slowly than ours, and probably more efficiently. A trial is like a scientific investigation, in which the opposing counsels appear to be co-operating with the presiding justice to ascertain the facts, whereas in the United States the lawyers fight for the advantage and the justice acts as a referee. In this respect, the administration of justice in England is superior to ours.

"Still, I do not believe that crime in America is on the increase. It is often more spectacular nowadays and receives a wider publicity, but nearly all the desperadoes who plan and execute these daily holdups and similarly spectacular crimes are soon caught, so that I believe this kind of crime is actually diminishing."

Judge Stern's simple explanation of the lack of crime in England as due largely to English tradition and sedentary habits, which inspires a citizen with a feeling of obligation to the neighborhood which he has made his home and in which his children will continue to live, goes right to the very heart of the problem. There have been more scholarly and more far-fetched explanations, but none has the note of authenticity which this one has. The American habit of moving often, of children separating from parents as soon as they can shift for themselves, of never establishing a family residence which remains unchanged for generations, certainly leads to a sense of civic irresponsibility which is not a deterrent in the perpetration of crime. A youth who lives in a neighborhood in which his great-grandfather was a familiar figure is less likely to become a prey to disintegrating social influences than a youth whose parents hail from parts unknown and whose past is a secret to his neighbors. As a corollary to Judge Stern's opin-

ion, one is tempted to conclude that the ease with which the American family disintegrates, each member leaving for different sections to seek its fortune in strange places, is one of the accessory factors in the prevalence of crime in the United States.

#### RESOLUTION TO THE MEMORY OF DR. E. W. FIEGENBAUM

WHEREAS, In the furtherance of His all wise plan, our Creator has taken our beloved friend and Colleague, Dr. E. W. Fiegenbaum to the higher service of His own purpose, and

WHEREAS, although we bow with reverence to the Will of our God, we are deeply conscious of the loss of our beloved Past-President, who has been a member of our Society for many years, therefore

*Be It Resolved*, that the minutes of the Council of the Illinois State Medical Society contain this record, our tribute to his memory, expressing our appreciation for his services, he having been one of the type that has been a factor in the up-building of the Organization, and be it

*Further Resolved*, that because of the unusual helpful character of his services, and because of our deep sorrow for our loss, a copy of this resolution be sent to the bereaved widow and family of the late E. W. Fiegenbaum, and that is also appear in the columns of the ILLINOIS MEDICAL JOURNAL.

J. S. Templeton,  
Chas. D. Center,  
Harold M. Camp,  
Committee.

Unanimously passed by the Council, Sept. 12, 1927. Carried.

#### AN ARGUMENT BEFORE THE EFFICIENCY AND ECONOMY COMMITTEE BY DR. JOHN R. NEAL, CHAIRMAN OF THE LEGISLATIVE COMMITTEE—ILLINOIS STATE MEDICAL SOCIETY, IN OPPOSITION TO THE OSTEOPATHIC BILLS IN THE ILLINOIS GENERAL ASSEMBLY

*Mr. Chairman, Ladies and Gentlemen of the Committee:* "Insofar as I know I am the only physician in this gathering of nearly 400 people. The committee is aware that the proponents of this bill have a very large lobby here today in

their interest. You have been privileged to hear their attorney recite their ideas regarding the need for this legislation. The organization that I represent does not employ an attorney to do its lobbying or to appear before your committee. There are over 14,000 licensed medical men in the State of Illinois of which the majority belong to the Illinois State Medical Society—the group I am representing today.

"The Illinois State Medical Society does not appear in the legislative chambers as antagonizing bills of this sort for any selfish purpose. We do not ask hundreds of busy doctors to leave their practice and come to Springfield to make an imposing lobby in this chamber. The only thing that the Illinois State Medical Society is interested in is fair educational requirements for the protection of the people of the State of Illinois regarding the treatment of disease and the maintenance of the public health.

"Nearly every member of this committee has received more than one hundred letters from the proponents of these bills asking that these measures become laws. Many communications are from grateful patients, a number are from prominent business men, but I am quite positive that you fully appreciate the fact that if the many thousand medical men in the State of Illinois would ask their grateful patients and the prominent business men, with whom they are acquainted to write letters opposing the lowering of educational standards in regard to the treatment of the sick, that your desks would be piled high with this needless sort of propaganda. It is easy to believe that each of the thousands of patients that are treated in the hospitals each month in the State of Illinois would, if so requested by their physicians, write a letter to his or her representative in the present legislature, asking that these bills be not passed. The plain truth of the matter is that we ask our medical men *not* to send this needless number of letters to your desk. We appreciate the fact that you have many problems to contend with. We realize that there were more than 1,400 bills introduced in the last General Assembly and if the mail propaganda was resorted to, as have my friends, the Osteopaths, in this particular fight, it would mean that each legislator would have to go through thousands of letters in order to find the important ones relative to the business of the



State. I am quite sure, therefore, that you will give these letters only the credit that is due them and that they are merely an endorsement for the foot work of the particular Osteopaths who have a number of people write in support of this class of legislation."

Voice from the floor: "Dr. Neal—you know that that statement is wrong."

Dr. Neal: "Now, Mr. Chairman, I assume that the same courtesy will be extended to me as was extended to the proponents of this measure. Two weeks ago today the proponents were given two full hours to present their side of the question. You had the privilege of hearing Dr. George W. Laughlin of Kirksville representing the Kirksville School—Dr. Schwartz, representing the Des Moines School, and also Dr. Shain, a prominent representative of the Chicago School of Osteopathy. You heard the Chairman of the legislative committee—you heard Dr. Mederes, and several others, and in all that time the opponents of the bill did not in any way attempt to interfere with the presentation by the Osteopaths."

Voice from the floor: "Mr. Chairman, I demand that I be privileged to ask a question."

Chairman: "Dr. Neal—will you answer the gentleman's question?"

Dr. Neal: "If the gentleman is a member of your committee I shall be pleased to stop and answer a question at the expense of the time allotted to me, but you will recall, Mr. Chairman, that you announced at the beginning of this hearing that this room would have to be given over to another Committee in two hours and that you said that the proponents of the bills could have forty minutes and a like amount to the opponents. When Mr. Lilienthal, their attorney, begged for a few extra moments, when you informed him his forty minutes were up, I graciously conceded him ten minutes of my forty minutes which left me but thirty minutes to answer the opposing side, after they have taken two hours and fifty minutes in putting their side of the question. I therefore ask, Mr. Chairman, that I be not interrupted except by the chair or a member of your committee."

Chairman: "The gentleman on the floor will take his seat and not interrupt the speaker."

Dr. Neal, continuing: *Mr. Chairman and*

*members of the Committee:* "I have been amazed at some of the arguments that Mr. Lilienthal has presented to you in this little pamphlet that I hold in my hand, of which each of you received a copy. The proponents for the bills have made some very glaring errors. In the opening statement they say 'the Osteopathic Physicians of Illinois, over 600 in number, on behalf of themselves and their thousands of patients, ask the passage of House Bills 150 and 151 for two main reasons: First, The present Medical Practice Act is unjust, and harmful to the public interest which it should protect. Second, the proposed Osteopathic Practice Act will remedy the situation, yet without any lowering of existing educational standards nor interference with any other legitimate school of the healing art.'"

"Mr. Chairman, I submit that this is rather a hard blow at the Supreme Court of the State of Illinois for on three different occasions they have upheld the present Medical Practice Act as not only being just, but being a protection to the Public Health. The Osteopaths put their own number at 600 in the State of Illinois and would lead you to believe that a large majority of the people in this great commonwealth of ours are depending upon Osteopaths for treatment when they are ill. This is indeed a debatable question. The latest classified telephone directory, published in January of this year in the city of Chicago, which roughly speaking represents about 3,000,000 people—approximately one-half of the population of the State of Illinois shows that in the City of Chicago and its immediate neighborhood there are 103 practicing Osteopaths."

"It is to be assumed, I take it, that every Physician or Osteopath in this enlightened age depends upon the telephone as a very necessary part of his professional business. It would appear therefore, that out of the 600 Osteopaths, as claimed by their organization, less than 20% of them are engaged in administering to over 3,000,000 people. In that same directory we find there are 217 Chiropractors, 12 Physio-Therapists, 147 Masseurs, 97 Naprapaths, and if we care to class the Christian Scientists as drugless healers, there are 411 Christian Scientists. Aside from the Christian Scientists we find less than 600 drugless healers of all types in the city of

Chicago and the same directory lists 5,466 Medical men.

"It hardly seems reasonable to me then, Mr. Chairman, that this handful of Osteopaths are representing such a wide spread demand as they would have you believe for certainly the proportion between the 100 Osteopaths to the 5,000 Physicians would at least draw the inference that their opening statement when they speak of thousands of patients is to say the least misleading. I want to say right here, however, that because the group is small is no reason why they should not have the full protection of the law, but certainly they are not entitled to any special privileges as are asked.

"We are not debating the merits of Osteopathy. They are the best educated of all the drugless healers. They take a very excellent course and certainly are entitled to every fair protection that a drugless healer aspires to, but in this same pamphlet they attempt to show you that there are three groups instead of two groups as outlined by the Medical Practice Act. They say that there are:

"1st—Medical Practitioners relying chiefly on drugs and surgery."

"2nd—Drugless Practitioners neither taught nor relying on drugs or surgery." and then they have the effrontery to tell you that in a third group are:

"Osteopathic Physicians and Surgeons, skilled in the use of drugs for limited, *non-curative* purposes (As antiseptics, narcotics, antidotes, anesthetics, etc.) and in Surgery."

"It is indeed difficult for me to see the reason for such classification. A dose of strychnine or calomel, or any drug in fact, has the identical same therapeutic effect irrespective for what reason it may be given, and for them to say that they use drugs for non-curative purposes is comparable to the man who puts a brick through the Jeweler's window and makes way with a tray of jewelry and when he is caught claims that it is not burglary; that he was merely stealing for the thrill of it. I do not believe that this Committee will listen to such silly classifications.

"As you know, Mr. Chairman, there are two bills being considered here today—House Bill 150, which is the Osteopathic Act and House Bill 151 which asks for an Osteopathic Board of Examiners. I would like to make an explana-

tion that I am appearing before this Committee in a dual capacity. First, as I explained to you in the begining—as the representative for the Illinois State Medical Society, and Second, as Secretary for the State Board of Medical Examiners. It has been quite hard for me to listen to the discussion of this bill and hear the many invectives hurled at the Medical men who represent the Department of Registration and Education and who give the examination in the basic sciences to all who seek the privilege of treating human ailment in the State of Illinois. The proponents of that bill neglected to tell you that there is an Osteopath on that Board who gives the Osteopathic examination and his grades are averaged in with the grades given by the five Medical Men. Mr. Lilienthal is charging that the Medical Men on the Board are not qualified to examine Osteopaths because they do not understand Osteopathy. I have in my hand the catalogue of the Chicago College of Osteopathy and I am going to read to you the list of books that are used in that school. All the names of the books that I will read will be books not written by Osteopaths but written by Medical Men. In anatomy, they teach from Cunningham and Spalteholz—two physicians. In physical diagnosis they depend on Rose, Cabot, DeCosta and Green—all prominent physicians. On ear, eye, nose and throat—we find May and Deason."

Voice from the floor—"Deason is an Osteopath."

Dr. Neal: "Thank you for correcting me—I just wanted to see whether you were listening or not. In pediatrics, we have Scheffield and Drew. In nurology—Ranson; also we find Dr. Osler's text-book and Dr. Graham's. Then in obstetrics we find Edgar and Williams and in surgery we again find Dr. DeCosta and Albee. We also find Dr. Crossen in women's diseases—these are all Medical authors.

"Now, Mr. Chairman, if the greatest majority of their text-books were written by Medical men does it look fair for Mr. Lilienthal and his group to maintain that we five members of the Medical board are not qualified to examine from such text-books?

"It is impossible for me to take up each of their specific charges on account of the short time in which I must present the opponents' viewpoint of these bills, and I have no doubt but



that the Committee is confused for the members have been very tolerant in listening for over three hours to the proponents and the opponents of this bill. You have heard the proponents tell you that they spent essentially the same number of hours in learning in identically the same subjects as do the Medical men and therefore they are amply qualified to practice Medicine in all its branches.

"What then is this controversy about? Does it not follow that if the Osteopathy Colleges do teach the same subjects and the same number of hours as claimed by them, why are they not qualified to take the unlimited examinations, or better still, why do they not insist that the Department of Registration and Education recognize their schools on an unlimited basis?

"The Department of Registration and Education has agreed on a number of occasions to recognize the Chicago School of Osteopathy if they bring their curriculum up on the same basis as the Medical Schools. Now, if it is true that they are on the same basis, according to their own argument and according to the schedule in their catalogue, where is the difficulty and why all these bills? The unvarnished truth, Mr. Chairman, is that they have presented their side of the case purposely in an obscure way, making it very ambiguous, or at least attempting to, and neglecting the only real issue in the situation, and that is this—that they do not want to give the same number of years as are required by the Medical men and yet they want to have their full and unlimited privileges. They jump immediately from the High School to their Professional School, thereby omitting two years of study demanded in the Medical Practice Act. It is true that they try to confuse the situation by giving an extra year of Hospital or post-graduate.

"You can not teach a boy geometry if he has not had algebra. No school gives a course in second year Latin without sufficient amount of elementary work, but the Osteopaths tell you that they are capable of being just as proficient in their course, striking out the two years of Liberal Arts, as are the Medical men who take this additional training.

"They have told you that the course in a Medical School is too long. They claim that the leaders in the Medical profession admit this.

Well, if that is true, then the Medical Practice Act ought to be rewritten on a lower basis, rather than extending special privileges to this group to the detriment of the Medical students.

"Mr. Lilienthal has read to you regarding the decision in the Supreme Court on the Schaeffer case which he claims gives Osteopaths the right to do surgery. You understand, Mr. Chairman, that this decision was rendered against the 1899 Medical Practice Act and that the 1917 Medical Practice Act was also held unconstitutional because it did not give the Drugless Healers the privilege of taking the entire examination in the event that they took extra schooling.

"This is just exactly the reason that the present Medical Practice Act, passed in 1923, was written—so that it would give equal rights to all who sought the privilege of treating human ailment in this State. On three occasions since that time has the Supreme Court upheld the 1923 Act on identically the same argument that the Osteopaths are presenting to you here today in attempting to show you that discrimination still exists and that their rights can only be had by special legislation.

"The time allotted to me has been exhausted but may I not ask your indulgence while I read a short paragraph from a little booklet known as the "Legislation of Physicians by Law," written by Harry Eugene Kelly of the Chicago Bar, in which it offsets the plea of the proponents of this bill that Supreme Court decisions have been in their favor and also used by the opponents of the bill in showing that the present Act is fair. If the present Medical Practice Act is unfair—it should be altered by this Legislature, but certainly new laws of this type are not predicted upon any real necessity. Quoting Mr. Kelley he says:

"The regulation of the occupation of healing the sick is accomplished primarily by legislative action, not by judicial decision. It is not supplied by the common law. No court can supply it, except indirectly as judges may interpret legislative acts. The fundamental work must be done by the state legislatures, because the necessary regulation is administrative in character under the general police power. Decisions of the courts relative to questions of medical practice are based on specific provisions of law. If there is no legislative act, there is no judicial

decision. If there is a bad act, the judicial decisions thereunder only emphasize the deficiencies of the act. If there is a wise act, the court's decisions at best but reflect the already established wisdom of the legislature. It is, therefore, useless to look to the courts alone for any material help in dealing with cults, double standards of professional educational requirements, or the perpetration of frauds by crooked doctors.'

"Mr. Chairman and members of the Efficiency and Economy Committee, I respectfully ask that you vote against the passage of these two bills. Thank you."

Note: (Upon roll call the two bills were defeated and the chairman declared that they be recommended—do not pass.)

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### WISCONSIN DOCTORS RECOGNIZE THE ABUSE OF FREE DISPENSARY SERVICE

In the recent issue of the *Wisconsin Medical Journal* under title the President's Page we quote the following:

#### ABUSE OF THE FREE DISPENSARY

One hears and reads much these days concerning the need of educating the public relative to the standards, ethics, and general activities of the medical profession. Indeed, it would appear that one of the chief indoor sports of certain laymen is to call attention to our foibles and mistakes, and to point out the need of our wiseheads getting together to save us from revolution and destruction.

Out of all this smoke there is no inconsiderable amount of fire, and it is evident to many physicians that our profession is passing through a transitional stage which we firmly believe will be weathered.

We have as yet heard no layman mention the lamentable fact that the average physician is greatly underpaid for his services, that no class of men give so freely and liberally of their time and effort, and that few physicians who have practiced medicine for twenty-five years could retire and live comfortably on their savings. Why?

Last year eight million of our people were treated gratuitously in our "free" clinics and hospitals. This does not include other tens of thousands treated by our colleagues in offices and

homes for which no monetary return was expected or received.

This deliberate cheapening of the doctor's services by this universal trend toward free medical attention is lowering his prestige. Whatever is free is not appreciated. The day has arrived when people who come to our dispensaries and free clinics in furs and other finery, or drive up in taxicabs or their own palatial cars, should have some rather pointed questions put to them not directly connected with their state of health. "Charity clinics" is preferable to the prefix "free." Such clinics should be reserved for only the destitute and those unable to pay for services. Let the patient designate his financial status in his own handwriting.

There is no other profession or group of men against which there has been launched so many attacks to lower his income as against the medical man. The physician is inherently a poor salesman, and unless the public can come to appreciate and prefer the modern scientific physician to the doctor of twenty-five years ago we as a profession will be almost compelled to resort more to methods of art and salesmanship than to scientific procedure.

The public must be brought to realize what is necessary today to secure a medical education and practice. That the modern practice of medicine requires many expensive accessories and that our overhead is great.—*Wisconsin Medical Journal*.

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### THE A. M. A. AND THE VOLSTEAD ACT

Without in any manner wishing to engage in a controversy as to whether alcohol is or is not a medicinal element of great value, the Associated Press dispatch, giving the action of the House of Delegates of the American Medical Association should be of interest to members of the medical profession.

The principle laid down that "no law can establish a scientific fact," is one that might well be taken to heart not only by adherents of alcoholic prohibition, but by those who hold to anti-vaccination, antidiphtheretic serum and similar viewpoints, and who often exert strenuous efforts to bring their own prejudiced slant on scientific matters such as the foregoing into compulsory legislation for all other citizens.

The expression of opinion of the House of



Delegates of the A. M. A. in support of the important principle involved is much to its credit. The dispatch to which reference was made follows:

Acting on the expressed principle that no law can establish a scientific fact, the House of Delegates of the American Medical Association voted today to prepare for submission to Congress a bill designed to remove present legal restrictions on the amount of whisky a physician may prescribe for his patients.

The proposition was discussed in executive session and the vote was taken after two hours of debate, which produced a proviso that the proposed measure be framed in cooperation with prohibition enforcement authorities. A proposal that the Association send to its members a questionnaire on the medical value of alcoholic liquors was referred to the board of trustees.

A statement issued at the close of the meeting said the vote was unanimous and declared it the feeling of the organization that "legislative bodies composed of laymen should not enact restrictive laws regulating the administration of any therapeutic agent by physicians legally qualified to practice medicine."—J. A. M. A.

### WHY VIENNA DOCTORS THREATEN STRIKE

A recent press dispatch stated that Austrian physicians threaten to go on strike unless negotiations then under way with the government increase their income. The larger part of the Austrian population is organized in vocational "Krankenkassen," a sort of compulsory governmental health insurance, and "Krankenkassen" hire the physicians at a regular salary to attend the sick.

This salary, however, is as low as \$30.00 to \$45.00 a month. The unorganized population is so impoverished that it literally cannot afford to be sick enough to call a doctor; private practice is therefore small and not very lucrative.

Physicians demanded first a raise of their "Krankenkassen" salary; second, exclusion from the "Krankenkassen" of all those earning more than \$85.00 a month, in order to create "private patients."

### DOCTORS APPOINTED TO THE CIVIC AUDITORIUM COMMITTEE OF CONVENTION REQUIREMENTS AND FACILITIES

Anton J. Cermak, President of the Cook County Board, has appointed on the new Civic Auditorium Committee of Convention Requirements and Facilities, Drs. R. R. Ferguson, Frank R. Morton, and Charles J. Whalen, all of Chicago.

### THE DECREASING STANDARD OF NURSING SERVICE

In a recent issue of the Journal A. M. A. we note the following correspondence. The protest is in line with similar complaints from all over the United States.

At the recent meeting of the American Medical Association the nursing situation was a real live subject in the house of delegates. This legislative body is fairly representative of the profession of the United States. The agitation for a more efficient nursing service is one that has to be solved in the near future and in the solution of the problem the medical profession must take a conspicuous part. The following is the A. M. A. correspondence:

#### NURSES AND NURSING

*To the Editor:*—In a recent issue I noticed an article by Dr. Abt regarding nurses. I agree fully with him. Twice within the last year I have had nurses who came on cases without even a hypodermic. I lent them each one and failed to have them returned. In twelve cases, only one nurse had printed records. In most instances the nurse fails to take any interest in her patient or her records.

I believe the fault belongs to three causes: lack of interest, no pride in registry, and too much money. A few years ago I received much better service when nurses came directly from the hospital. They displayed more pride in their work, their hospital and themselves.

Since the eight hour service in hospitals was inaugurated there has been more chance existing to pass the buck from one shift to another. The large registries, more money and more time off duty are all factors in the present trouble. Relief is demanded for this and that until a nurse actually

works only five or six hours daily. It will be a great relief if the present situation is remedied.

GEORGE C. STIMPSON, M. D.,  
Poy Sippi, Wis.

## INTERSTATE POSTGRADUATE MEDICAL ASSEMBLY

Preassembly clinics at the hospitals of Greater Kansas City upon Friday and Saturday mornings, October 14 and 15. Scientific programs and ambulatory clinics each afternoon at Muehlebach Hotel. Dr. J. Shelton Horsley of Richmond, Virginia, is a special guest upon Saturday afternoon, October 15; subject: "Peptic Ulcer," illustrated.

The intensive program of the Interstate Assembly will begin Monday, October 17, at 7 a. m., and continue morning, afternoon and evening, until the banquet in honor of the distinguished guests upon Friday evening, October 21.

The guests from Europe are as follows:

Sir John Bland Sutton, England, surgery; Dr. R. P. Ranken Lyle, England, obstetrics-gynecology; Dr. Ersilion Ferroni, Italy, obstetrics-gynecology; Prof. Adolphe Maffei, Belgium, pediatrics; Mr. Garnett Wright, F. R. C. S., England, pathology; Dr. I. Snapper, Holland, pathology; Dr. Gustav Alexander, Austria, otology; Dr. Otto J. Kaufman, England, neurology; Dr. Giuseppe Franchini, Italy; Dr. Sigmund Frankel, Austria; obstetrics-gynecology; Mr. John S. McArdle, F. R. C. S., Ireland; Prof. Carl Bohr, Germany, surgery; Dr. Luigi Marigiagalli, Italy, obstetrics-gynecology; Dr. J. Marinho, Brazil; Dr. Fritz Steinmann, Switzerland; Dr. Paul Unna, Germany.

The distinguished guests from America include the following surgeons:

Dr. Charles H. Mayo, Rochester, Minn.; Dr. George W. Crile, Cleveland; Dr. Alfred W. Adson, Rochester; Dr. Arthur Dean Bevan, Chicago; Dr. Joseph Colt Bloodgood, Baltimore; Dr. Hugh Cabot, Ann Arbor, Mich.; Dr. Walter E. Dandy, Baltimore; Dr. John D. Deaver, Philadelphia; Dr. John F. Erdmann, New York; Dr. E. Starr Judd, Rochester; Dr. Francis E. Lahey, Boston; Dr. Dean Lewis, Baltimore; Dr. Charles H. Frazier, Philadelphia; Dr. William D. Haggard, Nashville; Dr. W. E. Lower, Cleveland; Dr. Robert C. Coffey, Portland, Ore.; Dr. Jabez N. Jackson, Kansas City, Mo.; Dr. George J.

Heuer, Cincinnati; Dr. LeRoy Long, Oklahoma City; Dr. John J. Moorhead, New York; Dr. Allen Graham, Cleveland.

The following distinguished internists are to hold clinics or give addresses:

Dr. Lewellys F. Barker, Baltimore; Dr. Charles A. Elliott, Chicago; Dr. Elliott P. Joslin, Boston; Dr. Frederick J. Kalteyer, Philadelphia; Dr. James H. Means, Boston; Dr. Leonard G. Rowntree, Rochester, Minn.; Dr. Clarence M. Grigsby, Dallas, Texas; Dr. Francis M. Pottenger, Monrovia, Calif.; Dr. Frank Smithies, Chicago; Dr. David Riesman, Philadelphia; Dr. John Phillips, Cleveland; Dr. R. S. Dinsmore, Cleveland.

The specialties are represented by the following distinguished physicians:

Dr. James M. Martin, Dallas, Texas (roentgenology); Dr. Alfred S. Warthin, Ann Arbor, Mich. (pathology); Dr. Gabriel Tucker, Philadelphia; Dr. Frank C. Mann, Rochester, Minn. (clinical pathology); Dr. Irwin Abell, Louisville, Ky. (obstetrics-gynecology); Dr. Nathaniel Allison, Boston (orthopedic surgery); Dr. Alan Brown, Toronto, Canada (pediatrics); Dr. Fritz B. Talbot, Boston (pediatrics); Dr. William B. Hendry, Toronto, Canada (obstetrics-gynecology); Dr. Edward A. Strecker, Philadelphia (neurology-psychiatry); Dr. Charles Herbert Best, Toronto, Canada.

## ADAMS COUNTY CLINICAL MEETING

Physicians of Illinois, Missouri and Iowa are invited to attend the annual fall clinical meeting of the Adams County Medical Society to be held in Quincy, Illinois, Monday, November 14.

Jabez N. Jackson, LL.D., F. A. C. S., President of the American Medical Association and formerly President and Professor of Clinical Surgery, University Medical School, will be a guest of honor and will take part in the program and clinics.

Richard L. Sutton, M. D., Sc. D., LL. D., F. R. S., Professor of Dermatology, University of Kansas School of Medicine, and William W. Duke, Ph. D., M. D., F. A. C. P., formerly professor of Experimental Medicine, University of Kansas School of Medicine, are on the program and will hold clinics.

The names of the above men speak for themselves. These physicians are not only leaders in



their specialty in Kansas City, but have international reputations for their contributions. With a surgeon, dermatologist and internist on the program, both morning and afternoon, every physician is assured enough variation of subjects to hold his attention.

The program will include clinics from 9:00 to 12:00 and from 2:00 to 5:00. A splendid banquet and evening entertainment are also being provided.

The meetings will be held in the Elks' Club Hall, at 4th and Jersey Streets, Quincy, Illinois. Physicians from other states or counties are invited to take advantage of this all day clinical meeting.

#### SCHOOL MEDICAL INSPECTORS TO MEET IN CINCINNATI ON OCT, 17, 1927

Steps are being taken to hold an American Conference of School Medical Inspectors in Cincinnati on October 17, 1927. This action has been prompted by an increasing conviction among school physicians that an organized effort should be made to stimulate greater interest in the medical profession and to inaugurate certain measures that would insure to the work greater efficiency and to provide more and better medical leadership. Many physicians who will be in Cincinnati for the A. P. H. A. will no doubt attend the conference of school medical inspectors.

The morning session will be at the Sinton Hotel at 9:30 o'clock. At 6:00 P. M. an informal dinner will be served at the same place to be followed by short speeches by prominent American School Medical Inspectors. An interesting time is already assured. Should you expect to attend or wish further information address Dr. William A. Howe, State Education Bldg., Albany, N. Y.

#### ENSWORTH-CENTRAL MEDICAL COLLEGE ALUMNI ASSOCIATION

The third annual meeting and dinner of this Association will be held in St. Joseph, Saturday, October 22, 1927, at the close of the Post-Graduate Week in Kansas City. Clinics will be held in St. Joseph hospitals all day Saturday. The Secretary is anxious to have enrolled all of the graduates of Northwestern, Ensworth-Central

Medical Colleges. The professors in the three colleges are eligible to membership and urged to attend. Send your name to

CHARLES WOOD FASSETT, M. D., Sec.,  
115 East 31st St., Kansas City, Mo.

CHARLES GEIGER, M. D., President,  
St. Joseph, Missouri.

### Correspondence

#### DRUGLESS HEALERS ADMIT DISEASES CANNOT BE CURED BY DRUGLESS THERAPY ALONE

DRUGLESS PRACTITIONERS UNDER ILLINOIS LAW CAN QUALIFY TO PRACTICE MEDICINE IN ALL ITS BRANCHES

Springfield, Ill., July 8, 1927.

*To the Editor:* Enclosed please find the letter of invitation for those drugless healers who desire to become unlimited practitioners. I attended a part of the meeting and it was a revelation to know that the drugless healers would so publicly acknowledge that all diseases cannot be cured by drugless therapy alone, and that there are a great number of osteopaths and chiropractors now ready to desert the ranks of drugless healers and become full fledged physicians and surgeons if it is possible for them to do so.

This kind of a meeting, of course, is a death blow to B. J. Palmer's Institution at Davenport, Iowa, because his last *Fountain Head News*, the official paper for his institution, has devoted a great deal of space to the Palmer cry of "back to the back." Palmer is making an effort to stem this tide of dissension now in the minds of a great many drugless healers. He, of course, is desperate for students. In 1923 it was reported that he had 3,500 students in attendance, but this year it is reported that he has about 450, so in admonishing his cohorts and converts to get "back to the back" in reality he means to get back to the "trough."

I did not stay at the meeting after hearing the purpose of it, but I was afterwards informed that it is the intention of a large group of licensed drugless healers to attempt to form a medical college and have it recognized by the Department of Registration and Education.

J. R. NEAL, M. D.

The following is the letter of invitation:

Chicago, Illinois, June 21, 1927.

Dear Doctor:

The Medical Practice Act governing the practice of all medical and drugless practitioners in the state of Illinois, makes definite provisions whereby a drugless practitioner can, by complying with certain requirements, qualify to practice medicine in all its branches.

We, a committee elected by a large organized group of drugless practitioners, composed of Osteopaths, Naprapaths and Chiropractors desiring to comply with the above provisions, have held several meetings to discuss the possibilities and opportunities for all drugless practitioners to take additional training in certain subjects and to qualify to practice the healing art in all its branches.

As a result of competent investigation and interpretation of the Medical Practice Act of June, 1923, there have been revealed facts and information regarding the possibilities and opportunities presented at this time to the drugless practitioners.

A meeting of all drugless practitioners, Osteopaths, Naprapaths and Chiropractors will be held next Sunday, June 26, 1927, at 9:00 a. m., Chicago time, Parlor B, Morrison Hotel, at which time all information regarding this matter will be presented for your consideration.

If you are interested and want first hand information it is imperative that you be present.

#### THE COMMITTEE ON ORGANIZATION.

Dr. Sidney B. Butler, Chairman,  
Dr. Edmund J. Ryan, Secretary,  
Dr. Omer C. Bader, Treasurer.

#### NEEDED SAFEGUARDS IN THE PROMULGATION OF REGULATIONS UNDER THE NATIONAL PROHIBITION ACT AND THE HARRISON NARCOTIC ACT

The imposition of duties and prohibitions on the people through regulations promulgated by department heads, bureau chiefs and administrative boards acting under authority of Congress, and not directly by acts of Congress, seems to be a necessary outcome of the magnitude and complexity of our Government. There is no reason, however, why the formulation and promulgation of such regulations should not be as public as are the deliberations of Congress in the course of the enactment of a statute, nor why such regulations as are promulgated should not be published as widely and made as accessible as are such statutes as are enacted. In fact, publicity, publication, and accessibility are essential to intelligent cooperation between the department head, bureau chief, or board promulgating a regulation and interested members of the community who

must live under it, and are necessary to due execution and proper compliance.

Because of the absence of any statutory requirements as to the procedures to be followed with respect to these matters, the practices of various department heads, bureau chiefs, and boards vary, and the practice of a single department head, bureau chief, or board may vary from time to time. It seems desirable, therefore, that the entire situation be regulated by law, so as to promote uniformity and to hinder arbitrary and unwise action.

The same principles should doubtless apply to all regulations having the force and effect of law. Organized medicine, however, can hardly concern itself with such a broad field, but must properly limit its interests to the fields of particular interest to the medical profession, namely, the fields covered by the National Prohibition Act and the Harrison Narcotic Act. With a view to the proper control of the promulgation of regulations under the acts named and under similar acts, the following principles are suggested, for enactment into law:

1. Adequate public notice shall be given, and opportunity afforded interested parties to be heard, by brief or orally, before any regulation is promulgated.

2. Any regulation promulgated shall be officially published so as to inform the interested public of that fact.

3. A reasonable time shall be allowed after the promulgation of any regulation before it becomes effective.

4. Authentic copies of all regulations shall be available at all times to persons requesting them.

5. All regulations promulgated shall be officially reported to Congress annually and be published in authentic form in the statutes at large or in some other proper, generally available form.

6. When Congress first convenes after the enactment of the proposed law all regulations in force shall be officially reported to Congress and shall be published in authentic form in the statutes at large in some proper and convenient form, so as to bring publication up to date.

7. To meet emergencies, the president may waive the time limits and proceedings normally required for the promulgation of regulations, so as to permit the promulgation immediately of



regulations necessary to meet the situation, such regulation to remain in force until regulations can be promulgated in due course.

I shall be glad to have any suggestions you are willing to offer with respect to this matter. If such legislation as is suggested above meets your approval, please let me know, so that the way can be better paved for its introduction when Congress convenes in December next.

WM. C. WOODWARD,  
Executive Secretary, Bureau of Legal  
Medicine and Legislation.  
American Medical Association.

### THE USE OF ALCOHOL IN MEDICINE\*

BY CHARLES WILLCOX, M. D.,  
WASHINGTON, D. C.

The use of alcoholic drinks and the beginning of man were probably synchronous. The ancients looked on wine as one of the great gifts of the gods, though the Greeks appear to have abused this gift by adding to their wine such flavorings as sea-water, resin, aloes, wormwood, and other preparations. The Egyptians made various wines fifty centuries before the Christian Era, and Osiris is believed, on his travels, to have devised the preparation of a beer from fermenting grain, for use of those peoples who were not so fortunate as to possess vineyards.

When and how wines, beers and liquors were first used as medicine is more or less hazy legend, but in more recent times, that we now call the good old days of heroic therapeutics, when calomel and quinine were used in enormous doses, we know that alcohol was considered to be a panacea for the cure of very many diseases, and to be a potent preventive of infections. These ascribed virtues were due in the former cases to the mistaken belief that alcohol was a stimulant, and in the latter cases to the still more mistaken belief that alcohol in the body acted as a barrier and greatly added to the defense against all diseases. An incident following the epidemic of cholera in Altona, Germany, is interesting not only as tending to shatter the belief in the protective power of alcohol, but as possibly indicating the beginning recognition of "carriers" before the days of "Typhoid Mary." Three robust male nurses had done yeoman's work in caring for cholera cases, had escaped infection and, while enjoying a well-earned rest, decided to celebrate, during which celebration they indulged unwisely in too much drink, with a resultant irritation of the intestinal tract and a lowering of their resistance, thus giving the comma bacilli, that they had for weeks doubtless been carrying in their healthy intestines, a chance to assume a successful attack.

From the day when alcohol was considered a potent cure-all, it gradually came to take its proper

place in therapy, a place between therapeutic nihilism and the therapeutic pedestal it formally occupied. At the time its limitations and virtues were better understood, a law was suddenly enacted that not only makes the use of inferior preparations in medical practice much more probable, but makes the most beneficial use of any preparation not only difficult and often embarrassing but at times impossible. Alcohol at once assumed undue importance and notoriety and now has the unique distinction of being the only liquid medicine patients persistently advise their physicians to prescribe for them. The psychological effect on many patients and on more "would-be-patients" is unfortunate. Most of them have a fear, not of the possibility of wood alcohol being an ingredient, but of fusel oil which they hear so much about. Most of them would be greatly surprised if told that fusel oil is not a single substance, but is a mixture of the higher alcohols, mostly the amyls, that come over in small amount in the distillation of all good liquors; and that in ageing in charred casks, while some of the lower alcohols and some of the water evaporate, the higher alcohols do not; therefore, in good old seasoned liquor there is a larger percentage of fusel oil than there was in the greener liquid. The amount in good liquors is so small it can be ignored from a therapeutic standpoint; for instance, one analysis of 92 litres of Cognac gave 206 grams fusel oil or about 1/5 of 1 per cent., and in these proportions:

Propyl .....	12 per cent.
Iso-butyl .....	3 per cent.
Amyl .....	85 per cent.

The irritating effects and disagreeable taste of freshly distilled liquors are due not to fusel oil but to some volatile substances, principally furfural, that, after prolonged contact with the charred interior of barrels, forms esters to which is due the mellowness or "bouquet" of old whiskey and brandy. An analysis of 3 star brandy showed 110 parts esters to 100,000 parts of absolute alcohol, while 1 star brandy showed but 97 parts.

Alcohol has been with us for centuries—it is still with us—and it is only reasonable to assume it will always be with us. It has been, is being, and will be used in moderation by millions of intelligent men and women, and with no apparent harm. Millions have used it excessively and with dire results. These uses and abuses are, however, in no way therapeutic. As physicians we must look on alcohol, not with the eyes of the enthusiastic optimist, Omar Khayyam, nor with the eyes of the sombre pessimist who wishes to consign its users, with no exceptions, to jail. Unreasoning bigotry can only harm our practice, and we must look on alcohol with unprejudiced, rational eyes—as we do, for instance, on belladonna or epinephrin, simply realizing its virtues and its dangers—very easy after all.

Let us consider briefly what would happen if the world's supply of alcohol was destroyed and its manufacture stopped. It is no exaggeration to say it would relegate the drug business to the dark ages.

\*Read before the Section on Internal Medicine, Medical Society of the District of Columbia, May 28, 1926.

Alcohol is the only known agent that will extract the valuable and potent medicinal principles of the vegetable kingdom, leaving behind the inert, valueless mass. Manufacturers have, wherever possible, substituted acetone, water, glycerine, or syrup, but as yet no agent has been found that can replace alcohol. It is not only an invaluable extractor, crystallizer and solvent, but it is an ideal preservative. Moreover, alcoholic solutions do not freeze and break glass containers, and as a solvent it has a pleasant odor and a not disagreeable taste. In addition to its being the ideal and as yet unreplaceable solvent and preservative of drugs, it is a basic agent in the making of our precious anaesthetic ether. Furthermore, yeast, one of the by-products of its manufacture—as conversely alcohol may be considered a by-product in the making of yeast—is more valuable therapeutically than is generally realized, not so much for its recently popular use in a more or less haphazard way to furnish vitamins, but for the making of the staff of life. Bread, of course, can be made with baking powder, but it is not then wholesome yeast raised bread. These uses of alcohol, exclusive of its virtues as a medicine in selected cases, show that it is essential in practice. It can be made in practically unlimited quantity, and very cheaply. The excessive cost of ethyl alcohol is of course due to its very heavy taxation, and not to the cost of its manufacture.

The recent literature on alcohol is stupendous, and nearly all of this mass is on its abuse, an old story with which the profession and the laity have been familiar for many years. Very many carefully conducted experiments have been done on animals, and on physiological secretions, but these must be interpreted carefully when trying to reach correct conclusions as to alcohol's effect on man—for example, its effects on the gastric or duodenal contents in a test tube are very different from its effects on the same contents in their proper habitat. The alcohol remains in the test tube and continues to act on non-mobile fluids. In the healthy stomach it is rapidly absorbed as alcohol into the blood stream, and still more rapidly absorbed from the duodenum. In experiments on animals, the psychological factor, so important in man, is missing, and it is difficult to form any reasonable conclusion of its effect on man from careful experiments that show, for instance, its effect on the intellectual behavior of tadpoles.

To appreciate its therapeutic effects, we must be guided above all by careful clinical observation at the bedside, the most valuable criterion; then by logical interpretations of laboratory experiments on human beings; and, lastly, by pathological post-mortem findings, differentiating the findings due to alcohol alone from those due to numerous other factors.

Before considering the uses of alcohol, it is well to consider its contraindications. It should not be prescribed:

As a placebo;

For robust young adults unless conditions are alarming;

For reformed drunkards except in cases to be mentioned later;

For epileptics;

In cases of acute gastritis, hepatitis, or nephritis, as a rule.

Finally, no more should be prescribed than is indicated, nor should its use be continued after it has performed its mission; in other words, we should use alcohol with the judgment we use digitalis, always having in mind its easily acquired habit, and the ultimate depressing effects of large doses. While it will often help a nearly exhausted person in the last few minutes of supreme physical effort necessary to attain an object, it is a most serious mistake to give it with the hope that it will carry one through prolonged exertion, especially in very hot or very cold weather.

### Uses of Alcohol

**Local:** Alcohol is an excellent sterilizing agent for very delicate instruments that might be injured by other methods. It must not be forgotten that dry micro-organisms are not destroyed by alcohol; they must be moist; therefore, ordinary alcohol best in about 60 per cent. solution, is effective, while absolute is not.

Recently its use as a gargle has been reported favorably as a prophylactic measure during exposure to infections of the upper respiratory tract. The older method of using a weak solution of tincture of iodine for the purpose is probably as effective and is less irritating. If mercurochrome or tincture of iodine are not on hand, it is a very good substitute for the cleansing of wounds. It is advisable for use on the skin before vaccination.

It is most soothing and beneficial as a "rub" when the skin is hot and dry, and nothing is better as a preventive of bed sores in bed-ridden patients.

**Internal:** The internal use of alcohol is by far the more important. Its absorption from the healthy stomach is rapid, occurring in from one-half to two hours if the stomach is empty and the alcohol is in concentrated form. It enters the blood stream unchanged and is the only food absorbed unchanged from the intestinal tract. It is rapidly oxidized, only about 2 per cent. of an ordinary dose being excreted by the kidneys and lungs. If a large quantity is taken at once, the amount so excreted will not exceed 10 per cent. It has a high caloric value, about 80 per cent. of that of fat.

Mallanby made determinations on man of the fate of alcohol after very large doses. He found a martyr to science, a man of 70 kilos, and gave him whiskey containing 171 c.c. of absolute alcohol, once on an empty stomach, once 2 hours after a pint of milk, and once diluted with a pint of milk. He found in the experiment of whiskey on an empty stomach 100 c.c. blood had 330 c.mm. of alcohol or 1/3 of 1 percent. after one hour. Thereafter it gradually decreased. One hour after drinking whiskey on the milk diet the alcoholic content was



220 c.mm., and 1 hour after drinking whiskey mixed with milk it was 160 c.mm. In the two later cases, instead of reaching its maximum blood content in 1 hour, it took 2 hours. Thence the descent of the curve was the same in all cases. These experiments show: The rapidity of the absorption of strong whiskey from the empty stomach; the slower absorption from a partly filled stomach, and especially the efficacy of milk when mixed with alcohol in slowing the absorption of the latter. They show the rapidity with which oxidation occurs, i. e., at the rate of 10 c.c. absolute alcohol per hour in the average sized adult. They show chemically what had been known clinically, the reasons for giving, therapeutically, alcohol well diluted, and in small doses, over a long period; for instance, 10 c.c. of alcohol is oxidized in 1 hour after its absorption by the blood stream, while it would require 10 hours to oxidize 100 c.c.

Alcohol has a depressing effect on the higher centers of the brain, thus checking their usual inhibitory action on the lower centers. On respiration its effect is therapeutically negligible. It appears to effect the circulation indirectly by dilating the peripheral vessels, thus balancing the circulation, lessening the work of the heart, and tending to lower blood pressure. It has no effect on the temperature save by its causing increased radiation by virtue of dilating the peripheral vessels. Its effect on digestion is due to an increase in gastric secretion, which is to some extent counteracted by its inhibitory action on the gastric ferments.

While usually given well diluted, there is one condition in which the administration of strong spirits, good old brandy above all, often acts like a charm—that is in painful flatulence. Wine has been aptly called "The Milk of Old Age," and here is one of its most useful fields. In feeble old men and women who have cold skins, who have little appetite, who often have what is called "atonic dyspepsia," and who seem to have lost much of the natural interest and joy in life, a little alcoholic therapy at meal times will greatly aid digestion, will produce a genial glow to replace their chilly feeling, will make them take a more cheerful view of life, and minimize their cares and worries. Above all, by its hypnotic power, it will give them a good night's rest. If they desire a special form of alcoholic drink, it is wise to give it, if procurable.

To consider the other extreme in life alcohol has a very well-defined role in treating babies and young children. While we have by better feeding tremendously reduced the number of what are familiarly known as the summer diarrheas of babies, yet they do occur, and in cases of collapse very gratifying results have followed the giving of good brandy in small frequently repeated doses. It appears to act in these cases not only as an evanescent stimulant, but especially as an easily and rapidly digested food, supplying by its rapid oxidation that energy and heat that temporarily cannot be given the enfeebled little body by the usual infant foods. It adds

nothing to the intestinal tract to decompose or ferment. It has perhaps a less well-defined role in the pneumonias of children, but from my observations I believe it has carried some of my little patients past critical periods, and saved them.

In Asiatic cholera, where extreme dehydration appears even more rapidly than it does in severe cases of milk-feeding injury in babies, I have had gratifying results in some apparently hopeless cases, by giving frequent doses of whiskey or brandy well-diluted—and its beneficial effects I believe can be ascribed to its food value as a readily combustible fuel to supply energy in crises. At all events, the cold clammy skin gradually became warmer, the dehydration was gradually overcome, diarrhea lessened, and the alcohol seemed to be the agent that supported the patients until their anti-bodies could assume a successful offensive against the comma bacillus.

Amongst the laity alcohol has a great reputation as a cure for the poison of snake bites. Aside from its mental effect in soothing the mind of the one bitten, it does no apparent good. On the other hand, due to its reputation, it is often taken in stupendous amounts, and in the few cases of rattlesnake bite that I have treated, the acute alcoholic poisoning was a more serious factor than the snake venom. In selected cases of pneumonia, alcohol is invaluable; in some, occurring in alcoholics, it is mandatory. In those with extreme depression, with a feeble heart, low muttering delirium, brown, dry tongue, and distended abdomen, alcohol given in large amounts over a period of several days has saved many lives. The heart improves, the delirium gives way to a comparatively calm restfulness and optimism, and from a rapidly sinking maniac, your patient is transformed into more rational being, feeble yet, but now endowed with that hope and feeling of well-being that will carry him on. Typhoid fever, now much rarer, thanks to better sanitation and to vaccination, often showed a clinical picture like that of the pneumonias and with the same delirium; alcohol proved of equal value in such cases. Generally it is beneficial in septic cases, surgical as well as medical.

Alcohol has given good results in some cases of diabetes. Being non-nitrogenous, it cannot replace the proteins that are broken down in the body, and it cannot replace insulin in the burning of sugar. It can, however, reduce the dose of insulin by acting as a substitute for part of the carbohydrate in the diet, as it is excellent fuel for the burning of fats. It does not become glycogen and, as it is not ketogenic, it does not add to the risk of poisoning the patient.

It has often been found that men after hard labor suffered from severe cramps if they quenched their thirst with pure water. There is a great loss of body salts through the sweat, and water alone gives rise to a mild poisoning. When cider, beer or diluted wine is used as a thirst quencher, these cramps do not occur.

Undoubtedly the empirical use of mild alcoholic drinks is based on centuries of experience in the

mines and fields of Europe and explains the French peasants' use of his wine and water after hard labor. The use of wines in Europe, far from doing harm, has done good, not only by their psychological effect, but by improving the quality of very poor water. They drink in moderation, and the greatest insult you can offer a Spaniard is to call him drunk. The only ill effects of alcohol I have seen in France were in Normandy where they drink very ardent spirits in the form of "Calvados," or apple brandy, the green preparation being similar to our moonshine. Mothers have sometimes given it to babies to quiet them, which it has effectively done with the same disastrous results that some narcotic so-called "soothing syrups" have had in quieting babies in our country. It is this abuse of spirits in Normandy that has resulted in a move in France for temperance, not prohibition. They desire simply to improve the local condition as they once improved a more general condition when they stopped the use of absinthe.

Alcohol has been of benefit even to athletes in training. While smoking has been cut out, a small amount of ale, wine, or spirits has been allowed with dinner. The athlete has better enjoyed his meal, felt better, slept better, thoroughly oxidized his small dose during the night and been in better condition the following day.

Professor Pearl, of Johns Hopkins, in a careful and unbiased study, has shown that, while heavy drinkers die earlier than total abstainers, those who use alcohol in moderation live slightly longer. The psychological factor of a gentle euphoria may play an important part in this.

Nausea, especially that most distressing indication of sea-sickness, is often relieved and even cured by alcohol when nothing else has had any effect. Champagne has been the most efficient form. Brandy has been almost as good, and I have seen a number of cases respond to Benedictine. Why Benedictine should act so happily I cannot explain, save again on psychological ground. It is, however, often impossible to carry out this treatment on United States liners.

The greatest value of alcohol, then, lies in its hypnotic and psychological effect. Nothing can replace it in relieving the worry, distress and anxiety of the patient, and in giving him that feeling of repose and well-being that plays so vital a part in helping him over a crisis or in rendering a case of helpless suffering more bearable.

Unfortunately, we are now handicapped greatly in not being able to prescribe it in the most beneficial way. Not only are we not as sure of our preparations as we were, but we are limited as to the amount we can use. A patient may require, for example, two litres of whiskey or brandy every 5 or 6 days to save his life. It would be just as sane and just as merciful to limit to one grain the quantity of morphine we could give in a day to relieve the agony of a patient dying with cancer of the tongue. Even with our handicaps, we can still use alcohol with great benefit in carefully selected cases.

We should use it fearlessly and with the good judgment we use other drugs, always bearing in mind that while it can be a most vicious master, it is, and let us hope always will be, a most valuable servant. —Virginia Medical Monthly.

#### PRESENT STATUS OF THE TREATMENT OF SEXUAL IMPOTENCE

Dr. Victor G. Vecki of San Francisco, California, in an article read before the Urological section of the California Medical Association and published in the *Urologic and Cutaneous Review*, treats the subject as follows:

Intense study of the sexual question for over fifty years, and actual medical practice for well-nigh forty-five years have taught me to respect a fellow-being's sexual power, and made me realize its tremendous influence upon every individual's happiness, capability and general usefulness.

Under various pretexts, during the past twenty years, enormous efforts were made at sublimation of the sexual instinct; great progress was and is being registered on paper. It is quite true that a large number of children of old and refined families, oversensitive in every respect, have been frightened into efforts of sublimation, and thus the formation of a class of right nice, well dressed automatons, patient and submissive voters and workers is progressing. In order to hasten the increase in the number of molly-coddles another constitutional amendment will appear most advisable to the malevolent pinheads who devised some other impossible laws.

In spite of all that, I have failed as yet to meet a sane person, indifferent to his own sexual power. Sublimation, preached by frigid female and male sexual neuters, generally is considered to be a good thing, for the other fellow.

#### EXAMINATION OF PATIENTS

Some people seem resigned to be sexually incapable, but only because they think their condition hopeless. Frequently, however, we meet patients who think that their condition is easily curable, claiming that they are perfectly well and fit in every respect, the only trouble being a more or less pronounced sexual incapacity. Such patients almost invariably are of the firm opinion that there is no necessity of any examination and that only a pill, a tablet or capsule is needed to strengthen the sexual power. At present frequently appears the smart fellow who demands that some gland be given to him or "shot" into him.

The physician who knows will refuse to do anything, even as a preliminary, before the patient submits to a thorough bodily examination.

In former times even physicians used to laugh when they were told that a diagnosis must be made, asking what there was to diagnose? It seems so plain: the patient fails to have the proper erections and that was all. But even this one evident symptom of the failing erection shows many varieties. There may be prompt erections, but they wilt away before intromission or shortly after. The patient may have powerful erec-



tions when he is alone or in company of people with whom sexual relations are out of question. Some have erections only in the subconscious state, during sleep or only in the morning, and even in this kind of erection there are many differences as to rigidity and duration. Some patients are able to induce erections by the employment of various mental and mechanical stimulants, and finally there are those who never have any erections no matter what the situation may be. Certainly all these men are in need of a different kind of treatment.

It must be emphasized that the patient's own statements in regard to the condition of his sexual power are not always to be relied upon; some are mistaken and others like to prevaricate; at the same time whatever symptoms are related must be given due consideration; one cannot laugh away anything a sufferer's sorry experience may be. The patient's ignorance is excusable, but the physician cannot take the chance to prescribe strychnine and other stimulants, or to give all kinds of local treatments to a man who complains of sexual impotence but in reality is suffering from some fatal disease.

The physician must know the patient's age, occupation, family and personal history, past and present mode of living, exact history of the past and present sexual life and habits. The condition of the skin, of the nervous, the circulatory, the respiratory and the digestive organs must be ascertained, and finally the genito-urinary organs must be carefully inspected.

To the experienced eye the general appearance of the external genital organs may reveal a great deal.

#### SENILITY

In his recent splendid work on senility Voronoff says that it is frequently worse than death. Since 1888 I have repeatedly said the same about sexual impotence, because for me senility and sexual impotence are almost synonymous. Senility, just as sexual impotence, degrades and abolishes all resistance to sickness and finally to death.

Voronoff is surely right when he accentuates that we must not fight against death but against senility. I am sure that he does not go too far when he claims that no organ in the body of a man can preserve the vital energy, nor can it properly function unless its cells are stimulated by the testicular hormone, and that we may suppose that if the genital glands remained active in old age senility would be retarded and our body would remain young considerably longer. Premature sexual impotence surely shortens the span of life. A stallion lives longer than a gelding; no eunuch lives over sixty years.

Time forbids to enter into a discussion of the causes of senility, but everything points towards the support of Voronoff's theory that the connective tissue cells outline the epithelial or functional cells, encroach upon them and by multiplying replace them, and therefore we see the testicles and all other organs of senile individuals changing their proportion in favor of connective tissue, which normally should only support the body edifice. Retterer claims, however, that the epi-

thelial cells, when losing their vitality, gradually change or transform themselves into connective tissue cells. In any case senility is always due to an increase of the connective tissue cells at the detriment of the epithelial or functional cells.

Amongst the causes of sexual impotence, age ranks first, but we must not consider years alone. There certainly is no invariable age limit to sexual power, just as there is no age where sexual impotence may not appear. We must distinguish between senility and age. Senility may appear at any age and the longer it lasts the more difficult it is to combat, because it is a hard task to resist the decay of an organism which was growing old for many years.

#### PLURIGLANDULAR SYNDROME

Next to age in frequency of causing sexual impotence are the various congenital and acquired conditions of hypo- and hyperfunctioning glands of internal secretion.

While the diagnosis of a pluriglandular syndrome is not always easily made, I am sure that premature sexual impotence and the subsequent senility always are pluriglandular deficiencies. Even children afflicted with pluriglandular insufficiency look more or less senile.

#### DISEASES OF SEXUAL ORGANS

Next of importance amongst the causes of sexual impotence are the various congenital and acquired pathological conditions of the sexual organs themselves. The study of endocrinology has explained many congenital deformities and in many cases where formerly relief seemed impossible a great deal can be done.

Information in this respect is spreading very slowly, but obstetricians and pediatricians have begun to take notice. Still, it is distressing to see so many evident cases of endocrine pathology wherever youth congregates, and one cannot help but swear inwardly why in thunder no one puts the poor creatures under proper organotherapy!

Thanks to the many years of harping of thinking genito-urinary surgeons it is at present properly appreciated how frequently sexual impotence is caused by infectious and other diseases of the sexual organs.

#### OTHER CAUSES

Virility has a host of enemies; the list is long and never complete. Every debilitating bodily condition impairs sexual power. We may mention: diabetes, obesity, autointoxication, arteriosclerosis, over-feeding, improper nourishment, alcoholism, over-work, worry and sedentary habits.

Sexual neurasthenia, in former times in the front ranks of the causes of sexual impotence, at present is considerably less in evidence, because most of these neurasthenic conditions can be explained by glandular insufficiency or by some local pathology that in former times could not be demonstrated. As stated many years ago, we meet three kinds of sexual neurasthenic conditions. The only genuine one, caused by mental aberration only, then neurasthenia caused by one or more organic derangements over-registered by a confused mentality, and finally sexual neurasthenia caused by

one or more organic derangements over-registered by a healthy mind.

It is certainly evident that every patient complaining of sexual weakness in any form must be given a thorough examination and that anyone not familiar with the necessary instrumentation, including proper endoscopy, should not pass final judgment in any of these usually complicated cases.

#### PREMATURE EJACULATION

One of the most frequent also most distressing forms of sexual impotence is premature ejaculation. Very often it is being overlooked by the ignorant victims, and then causes all kinds of varieties of matrimonial failures, and unpopularity with the sexual partner. It may be a symptom of genuine sexual neurasthenia, but mostly is caused by hyperesthetic conditions of the organs of ejaculation.

The patient's blood pressure is to be considered in every case, and we find frequently that sexual neurasthenia is associated with either abnormally low or high blood pressure.

#### MEDICINES AND ORGANOOTHERAPY

The treatment of sexual impotence used to be a rather distressing undertaking until the development of endocrinology and organotherapy. The study of the internal secretions has done for sexual weakness almost as much an antitoxin has done for diphtheria. Of course, no one should underestimate the value of the enormous progress that genito-urinary surgeons have made in the methods of examination and treatment of the various pathological conditions of the sexual organs.

And again we see clearly that a thorough examination of every patient is absolutely necessary. No doubt there are cases where the simple use of some internal remedy is indicated and sufficient. The so-called aphrodisiacs accomplish something at times. Iron and arsenic are frequently indicated. One of the first drugs to be used was strychnine. I still consider this drug to be one of the best and most reliable tonics, only it must be used in proper doses. Anything below a twentieth of a grain is of no use in sexual impotence. Some patients must be, what the French call strychninized, and many asthenic patients can be greatly benefited. But care and constant observation are absolutely necessary. It will never do to place a quantity of strychnine pills in the hands of any patient. Intramuscular injections given by the physician himself or under his supervision, or rectal suppositories, should be used.

Phosphorus does a great deal of good in phosphaturia. It influences favorably gloomy patients, and may sometimes overcome temporary sexual frigidity.

Atropin, cautiously used, may help in some conditions of irritable weakness, mainly in prostatorrhoea. In combination with some purgative as aloe, jalap, rhubarb and mainly podophyllin, atropin may have surprisingly good results in case of autointoxication. But neither phosphorus nor atropin is a drug to be used for any length of time. The same can be said of ergot,

which sometimes is of value in spermatorrhea and *ejaculatio precox*.

Morphine and other opiates do have an effect in some purely psychic conditions by eliminating the inhibitions, but out of respect for their habit forming properties cannot be recommended.

Novocain may be used locally in the form of an instillation of a drop or two into the meatus in cases of premature ejaculation. As it is done only on rare occasions there is not much danger of a habit forming. Even valerian may do some good in cases of undue excitement. Bromides frequently do only harm.

Alcohol is indicated in cases of frigidity and is indispensable in premature ejaculation. It is self-understood that proper doses must be used. It is also self-understood that no real physician will ever use cantharides and similar preparations.

No matter what drug may be employed, in the great majority of all cases of sexual impotence the simultaneous feeding of desiccated glands of internal secretion is indicated. Either the thyroid alone or in combination with the suprarenal, the pituitary, the gonads and hemoglobin give invariably good results. Small doses should be used over a long period. Physicians, as well as manufacturers, must consider that when, for instance, the pituitary gland is used for impotency, it should not be from a castrated animal. But there again we must emphasize that the patient must first be examined and constantly watched; the influence of the various opotherapeutic preparations upon the well-being, the weight and mainly upon the blood pressure must be controlled.

In cases resisting internal opotherapy, intramuscular and intravenous injections are next to be applied. Very good results are obtained from injections of orchitic preparations. We know that the internal secretion of the testis controls calcium metabolism and exercises a stimulating influence on the exchange of protein substance.

Here, however, we must emphasize that the main question is the one of material. Give me the proper material, freshly prepared, and I am sure of results. So far I had the best experiences with ampules of freshly prepared orchitic substance kindly furnished me by Dr. Morrille George.

No one can deny any longer the powerful influence of the internal secretion of the generative gland upon the whole bodily system. Experiments made recently in Kravkov's pharmacological laboratory at Leningrad prove that the testicular liquid acts not only upon the circulatory apparatus but also upon the other glands of internal secretion. Therefore, we do not have to wonder at the really marvelous results obtained by subcutaneous implantation of the substance of the ram's testicles as devised by Stanley. The influence upon the sexual power may even be overshadowed by the other beneficial influences. But, I am under the impression that even with Stanley's implantations there is a question of material, as the treatments act so differently even in one and the same individual.

The best results are being obtained by real trans-



plantation after the method of Voronoff and using his technique. Here again we are confronted with the question of material. Only human glands or those of anthropoid apes can be used, and the difficulties of obtaining them are usually insurmountable.

Every individual must be treated as such and strictly according to the individual findings. All pathological conditions must be removed, as far as possible. There is no use of any medication, organic or other in a person whose prostatic gland is diseased or whose seminal vesicles are infected. To stimulate an individual suffering from any kind of auto-intoxication is more than useless.

Every patient must be placed on a diet, considering all conditions. A clean intestinal tract is of the utmost importance. Proper exercise without fatigue, proper amount of sleep, congenial occupation, amusements and general cheer are essential.

#### PHYSIOTHERAPY AND PSYCHOTHERAPY

Physiotherapy in various forms, but mainly general massage and massage of the sexual organs themselves frequently accomplishes good results. Percussion and even punching of certain regions along the spine may do a great deal in some cases. Even such procedures must not be scoffed at, and thus a chance given to some ignorant cult practitioners. Radium and its emanations variously recommended, also in the form of intravenous injections, do not seem to mean much in sexual impotence, but ultra-violet rays must be used freely whenever indicated. I have seen very good results in some cases. Psychotherapy is always indispensable, because it is necessary to combat the patient's gloomy despondency and frequent hopelessness.

Even the use of some kind of perfume, especially musk, is of help in some cases.

#### VASOLIGATION

While the strict observation of all hygienic rules combats to a certain extent the regressive evolution of the functional cells, we must agree with Voronoff when he claims that this cannot be done indefinitely because the glands of internal secretion act more and more feebly, and one of them, the genital gland, only too frequently ceases to function altogether.

The elaboration of the spermatozoa makes the testicle a gland of external secretion, but of almost greater importance for the individual is the elaboration of the hormone which makes a man a man.

Spermatozoa may be found in very old men, even after the so-called puberty gland has ceased to elaborate the precious hormone.

There is no doubt that the properly performed Steinach operation prevents a premature ceasing of the internal secretory function of the testicle, and frequently re-establishes such function after it was almost extinct.

No matter what anyone may say, my personal experience with many patients is that properly performed vasoligation, whenever indicated, is a very useful operation and in some cases of premature ejaculation, the supreme remedy. I do not think this operation is ab-

solutely necessary to cure most varieties of sexual impotence, because simpler remedies will usually do.

Whenever sexual impotence is caused by some grave disease the patient must be made to realize that his sexual power is not to be considered for the time being.

#### REGULATION OF THE SEXUAL LIFE

The sexual instinct cannot be sublimated, and if it were possible to do so, surely it would not be desirable.

Sexual impotence is frequently caused by a faulty sexual life, but long forgotten masturbation is invariably being accused, when it has absolutely nothing to do with the condition. Really normal, if vigorous, manifestations of sexual power are called excesses, and the patient, whose glands of internal secretion are hypofunctioning, constantly broods and worries about his sinful past. It is to laugh at what some people call excesses.

Everybody knows that improper husbanding of the given sexual power is frequently the cause of sexual impotence, but, while the evil effects of so-called excess always are unduly exaggerated, the effects of abstinence are underrated. It is a necessary consequence of our present social order that so many people must remain abstinent.

While I said in 1888 that real abstinence is practiced very seldom, that it is well enough to exalt it, but that its great rarity makes talking of it a positive waste of time. I had to acknowledge in 1921, that the heroes, or as one may call them, the victims of sublimation of the sexual instinct, are becoming more and more numerous. In fact, sexologists are now really able to judge of the good and bad consequences of sexual continence.

Abstinence and neurasthenia go hand in hand and support each other.

Sexual power cannot be banked like money, and it is an old experience that non-use leads to weakness.

One of the most distressing and obstinate pathologic conditions following prolonged sexual abstinence is premature ejaculation. Besides, it must not be forgotten that those who remain absolutely continent are mostly men in whom sexual power never was predominating.

Landois, the noted physiologist, properly said that "continued inactivity of nerves diminishes their irritability, even to annihilation." It is only too obvious that sexual faculties not kept in sufficient practice are weakened thereby. Every gland, consequently also the sexual, requires a certain amount of excitation of its nerves in order to produce energetic action. Every muscle, consequently also the muscles of erection, become strengthened only by exercise. Prolonged abstinence as a rule impairs sexual vigor. Considering that a function as important as the sexual one cannot be eliminated without impairing the function bearer, it is natural that only too frequently various other pathological changes take place in the bodily system of the person who disregards the sexual urge.

But, and there again is a but, though it is evident that a mature individual should satisfy the sexual instinct in a natural way, a conscientious physician finds himself in a very delicate position when consulted as to

natural sexual life. The situation is the most complicated when dealing with conscientious and refined persons. While the brutal one only too frequently captures the fair one, a gentleman is almost hopelessly handicapped in his innate pursuit of happiness in the field of sexual love, and sometimes is handicapped even in married life if the wife happens to be a sexually frigid woman. In most cases it is the same to recommend regular sexual intercourse to the average person as to advise a pauper to follow any kind of hygienic life, including nourishing food, proper rest and a change of climate.

#### CONCLUSIONS

Sometimes one interview and examination, a simple recommendation or prescription leads to a cure, but more frequent are the cases that require long months of local and other treatments, close study and observation.

Anyone who takes and treats sexual impotence lightly, or undertakes to treat it without a minute examination, exposes the patient and himself to very disagreeable surprises.

It should always be endeavored and it is always possible to lighten the burden of onmarching and encroaching years. But there is no short cut road to success in the fight against senility and its twin brother, sexual impotence.

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#### PAINLESS CHILDBIRTH\*

Nathan Poliakoff, M. D., in *W. Virginia Medical Journal*, June, 1926, says:

There has existed, from time immemorial, the cry of the woman in labor for some relief of the pains of childbirth, and especially is this true of the primipera. Physicians have tried various drugs, only to discard them one by one on account of the deleterious effect on the mother, the child, or the progress of labor.

In 1902, Steinbuechel introduced Hyoscine-Morphine, better known as "twilight sleep," for the purpose of relieving the pains of childbirth. This method of amnesia and analgesia was tried in the large maternity hospitals both in Europe and in this country, but was soon discarded on account of the dangers to both the mother and child.

However, Dr. Schwartz, of the Barnes Hospital, St. Louis, states that the "Twilight Sleep" method has given them very satisfactory results in quite a number of labor cases for the past ten years. The restlessness which this method causes (in twenty-five to thirty per cent of the cases) is overcome by the use of magnesium sulphate intramuscularly.

As Gwathmey and his co-workers have shown that magnesium sulphate has a depressant effect when used in small doses and that it has a definite synergistic

effect when given with certain other drugs, so that doses much smaller than the anesthetic dose will produce considerable analgesic effect when injected subcutaneously or intramuscularly. This synergistic effect is supposed to be more marked when magnesium sulphate is used with morphine. Weston and Howard have also shown that small doses of magnesium sulphate have a sedative effect when given subcutaneously or intramuscularly.

Many physicians use morphine-magnesium sulphate in the first stage of labor and nitrous oxide gas with oxygen during the entire second stage, but this method requires someone who is skilled in administering gas-oxygen analgesia.

The method of relieving the pains of childbirth which has met with the greatest success, is the one that has been used at the Lying-In Hospital of the City of New York for the past two and one-half years in over 1,700 cases in the hospital and 400 cases in the Out-Patient Department. This method can be carried out by any physician in a home as in a hospital and so far, has proven to be a safe method for relieving the pains of childbirth.

I have here attempted to outline this method as briefly as possible:

1. When the patient goes in labor, the usual soap-suds enema is given followed by tap water enemas until the lower bowel is clean. This is absolutely essential for the instillation, to be described later.

2. When the contractions are strong, coming about every five minutes and lasting about thirty seconds and the cervix is about two fingers dilated an intramuscular injection of 2 C. C. sterile 50 per cent solution of magnesium sulphate and one-fourth grain of morphine is given. The morphine tablet can be dissolved in a little boiled water, then drawn into the syringe containing the magnesium sulphate solution. A long needle (1½ inches, 19 gauge) is inserted deeply into the gluteal, deltoid, or subscapular region and the solution injected as the needle is gradually withdrawn. The gluteal region is the one preferred and the injection is given during a pain. After the injection the patient is kept as quiet as possible, all extraneous stimuli, as loud noises, bright lights, etc., are to be avoided at this time, in order to favor a natural falling asleep.

3. One-half hour after the first injection a second intramuscular injection of 2 C.C. of 50 per cent magnesium sulphate (without morphine) is given. This second injection is given regardless of whether the first injection is sedative or not, as the second injection tends to prolong the action of the morphine. Dr. Davis of the Lying-In Hospital, states that even if delivery is expected within two hours, these injections may still be given, and even if birth should take place one hour after the injection, no harm comes to the baby.

4. If there is no relief within twenty minutes after the second injection of magnesium sulphate, the following retention enema (ether instillation) is given:

Quinine (alkaloid) 20 grains.

Alcohol, 45 mins.

\*Read before the Cabell County Medical Society, Huntington, March 25, 1926.



Ether,  $2\frac{1}{2}$  ounces.

Liq. Petrolatum (heavy q. s. ad.) 4 ounces, or olive oil.

The ether instillation is preceded and followed by an ounce of Liq. Petroleum or olive oil. The instillation is never given sooner than fifty minutes after the first magnesium-morphine injection.

5. Immediately after the ether instillation a third intramuscular injection of 2 C.C. of 50 per cent magnesium sulphate is given. This injection prolongs the action of the ether. It is best to wait at least an hour after the instillation before making a vaginal or rectal examination.

6. If the morphine-magnesium sulphate is given towards the end of labor, with sedative effect, delivery usually takes place before there is any indication for the ether instillation.

7. If the morphine-magnesium sulphate *does* produce the sedative effect, the ether instillation is not given until the patient is again complaining severely of pains coming every three to five minutes and the cervix is at least three fingers dilated.

8. When the effect of the ether instillation has worn off, and the patient is complaining and the contractions are strong and frequent, a second or even a third instillation is given at two and one-half to three and one-half hour intervals, though not less than two and one-half hours. Only ten grains of quinine is used in the second and subsequent instillations, as after the first instillation all subsequent instillations are followed with an intramuscular injection of 2 C.C. of 50 per cent magnesium sulphate.

9. If after the first ether instillation with magnesium sulphate injection there is *no* sedative effect in one-half hour and birth is expected within two hours or so, Dr. Davis recommends giving a second ether instillation at once instead of waiting the usual two and one-half hours, using in this instillation:

Quinine (alkaloid) 5 grains.

Alcohol, 20 minims.

Ether,  $1\frac{1}{2}$  ounces.

Liq. Petrolatum, or olive oil q. s. ad., 2 oz. He also states that in case there is no sedative effect from the first ether instillation and magnesium sulphate injection, and the birth seems rather far off, then you can immediately give a second injection of morphine grain  $1\frac{1}{6}$  with 2 C.C. magnesium sulphate (50 per cent) and the second ether instillation, if necessary, is given two and one-half hours after the first instillation.

10. At the time of delivery, if any anesthetic is required, ether inhalations are used sparingly, especially if the patient had two or more ether instillations.

11. Auditory disturbances, true diabetes and colitis are the only contra-indications for the use of this method.

#### CONCLUSIONS

1. It has been estimated that 90 per cent of the patients secured some relief from this method.

2. It can be used in a home as well as in a hospital and has proven to be safe method both for the mother and the child.

3. Labors are rarely prolonged by the use of this method.

4. The patients were quieter during labor, apparently underwent less strain, and were in a better general condition the following day than if this method was not used.

#### BRAZILIAN TREE YIELDS LEPROSY-CURING OIL

Rio de Janeiro, Oct. 22.—The oil of a well known Brazilian tree has been found effective in the treatment of leprosy and not as painful for the patient as chaulmoogra oil, which has been used for centuries in leprosy cases in the Orient.

Dr. Anetnor Machado who has made a study of this new product, finds that it resembles chaulmoogra oil in many respects but that its acids have fewer methyl radicals which, he believes, are the chemical groups that have made chaulmoogra oil so dreaded as a medicine. The new oil has been used quite extensively of late in the treatment of leprosy, and the results have been eminently satisfactory, Dr. Machado says.

The tree from which the oil is obtained is known commonly as the sapucainha, and in botanical language as *carpotochea brasiliensis*. An extract made from it has long been used as a household remedy for skin diseases.

#### SURELY INTOXICATED

"Are you positive that the defendant was drunk?"

"No doubt," growled Officer Raynor.

"Why are you so almighty certain about it?"

"Well," replied Raynor, "I saw him put a penny in the patrol box on Fourth Street and then he looked up at the clock on the Presbyterian Church and roared:

"Gawd! I've lost 14 pounds!"

#### CARRIED GLAND TREATMENT TOO FAR

A sad looking woman of mature years appeared in the street pushing a baby carriage, in which a fine, healthy looking infant was howling lustily. A friend approached. "Why Mrs. Lufkins!" she ejaculated, "What a darling baby! But you have no children. Whose is it?"

"You're wrong, my dear," replied the sad faced one, "This is my husband; he went too far with the gland cure."—*The Medico*.

#### CHANGE IN LANGUAGE

A Scotchman emigrated to Chicago. At first he couldn't understand the language, but in a short time it got to seem all right. As his job was a good one, the Scotchman sent for his wife. She said on her arrival: "Gosh, Dugald, how queer the folks talk here!" "Hoot," says Dugald, "they talk all right now. Ye should ha' heard 'em three months ago."

## Original Articles

### VENEREAL DISEASE CONTROL\*

THOMAS PARRAN, JR.

Assistant Surgeon General, U. S. Public Health Service  
WASHINGTON, D. C.

As far back as 1875 the problem of the venereal diseases, their prevention and control, has been considered by the U. S. Public Health Service. The annual report for that year contained a number of significant recommendations for the prevention of the introduction of syphilis and gonorrhea into the United States, for the provision of dispensary treatment, for the quarantine of infected persons and for public education, which are as germane to the problem today as they were fifty years ago. "If these regulations were adopted," the report states, "a better sanitary as well as moral state of society would prevail generally."

Ehrlich discovered salvarsan in 1910, which discovery more than any other one thing, resulted in tangible and effective measures for the control of syphilis. The Public Health Service secured the first shipment of this drug to the United States and cooperated in its first administration in this country.

In 1911 the Public Health Service wanted to do something which it hoped would bring about a reduction in the prevalence of venereal diseases among the patients who were being treated in its Marine Hospitals. At that time about 22 per cent. of all admissions were on account of venereal infections. So, in 1911 a booklet was prepared containing the facts then known about venereal diseases, stated in plain and simple language. The intention was to distribute the booklet among these hospital patients. The booklet was sent to the Treasury Department for approval and was promptly sent back with a message that it contained matter which was indecent and improper for the Government to print. And that attitude, which reflected public opinion of that time, was sustained by higher officials and the booklet was not printed.

That was in 1911. Seven years later the world war had brought the country to a state of mind in which it was willing to look reality in the face and the Federal Government was

spending nearly three million dollars per year to promote the control of venereal diseases. This was but a small part of the total money and energy being expended throughout the country for this purpose. In that campaign the Government was flooding the country with literature far more frank in its treatment of the subject than do the venereal diseases.

Never before in a similar period of time has the public been enlightened more rapidly concerning any phase of public health, nor has more progress been made in directing the forces of prevention against any group of diseases. On the other hand, it must be acknowledged that no problem which heretofore has engaged the forces of prevention offers greater obstacles to success than do the venereal diseases.

It may be of interest to summarize some of the activities which have been carried out for the control of these diseases during the past eight years. Prior to 1918 only a few States required the notification of gonorrhea and syphilis. Every State now requires some type of notification and more than three million cases of syphilis and gonorrhea have been notified to the Public Health Service. Nearly 500 cooperating clinics are in operation, which have treated more than one million new cases of venereal disease, giving them about twelve million treatments. It is impossible to estimate the total volume of educational work which has been carried out to enlighten all classes of the public in the facts concerning these diseases.

In the initiation of this nation-wide system of venereal disease control the Public Health Service took a leading part, aiding with large appropriations the development of the anti-venereal campaign. Because of the urgency of the situation precipitated by war conditions, this was highly desirable. The Public Health Service, however, considers the actual conduct of community public health effort to be in fact as well as in theory, a State and local rather than a Federal function. In keeping with this conception the venereal disease work has been decentralized in large measure to the individual States. Government aid for this work has ceased and States are now on their own responsibility for the success or failure of their venereal dis-

\*Read before the Seventy-seventh Annual Meeting, Illinois State Medical Society, May 31, 1927.



ease control efforts. In the interest of accuracy, however, it should be stated frankly that our plans to decentralize venereal disease control to the States has been at times hastened by budgetary and appropriating agencies of the Government, with the result that the well functioning organization built up during and following the war by joint and Federal-State effort was transferred too suddenly to the individual States, about half of which were unprepared to carry on satisfactorily. It is perhaps inevitable that this reaction should have followed the wave of enthusiasm engendered by the war. The activities of the Public Health Service in this field now are limited to research and to exercising an advisory and coordinating relation to the individual States.

During the period of readjustment through which venereal disease control work is now passing, careful thought is being given by health authorities as to the phases of this work in which they most profitably can engage. Those measures which seem most productive of results are being encouraged and the whole program is being integrated with other phases of public health effort. It will be readily conceded that the venereal diseases constitute at once the most important and most difficult phase of public health; most difficult because the conditions which give rise to them are intimately tied up in the whole fabric of our social system. The venereal diseases very properly have been termed "social" diseases in that they are maintained largely because of unwholesome conditions in society. Another difficulty which surrounds effective measures of control lies in the fact that we have no accurate knowledge as to the true prevalence of these diseases. No health department can effectually control any disease unless it has knowledge of when, where and under what conditions cases are occurring. Health officials can point with pride to the marked decrease in the death rate from typhoid fever, from diphtheria, and from other diseases against which public health effort has been directed. No such guide-posts are available in the field of venereal disease control to point out the success or failure of control efforts. Various estimates have been made as to the prevalence of these diseases and limited data are available relative to selected groups. We know, for example, that following a casual

examination of draftees, during the World War, among the second million 5.4 per cent. showed obvious evidences of a venereal infection. In hospitals where routine Wassermanns are made, the percentage of positive results varies from 5 to 20. This, however, gives a misleading result since the persons on whom these examinations are made are sick people and do not represent the general population. Of the patients admitted to hospitals for mental diseases in the United States (1922) 7,187 cases representing 10 per cent. of the total admissions to these institutions, were admitted on account of general paralysis or syphilis of the nervous system. Physical examinations have been made of selected groups of college men and women, of industrial employees, et cetera, but because of the differences in the thoroughness of the examinations reliable comparisons are difficult. The prevalence or trend of venereal disease infections among the general population in the United States is not known. Millions of dollars have been spent for various phases of venereal disease control and yet we have no irrefutable statistics to show that these diseases are less prevalent than formerly. Recently there have been forthcoming from Great Britain, from Denmark, Belgium, France and Germany more or less conclusive evidence secured in various ways, that the venereal diseases, and particularly syphilis, in those countries are on the decline.

The public in this country has a right to expect conclusive facts as to the results of anti-venereal measures. Therefore it is believed that the most important next step in the control of the venereal diseases is to establish as accurately as possible the present incidence of gonorrhea and of syphilis in the general population. Once this information is secured more definite statements can be made as to the extent of the venereal disease menace, and from an administrative standpoint, of still more importance will be to establish a base line from which changes in prevalence in future years may be measured. After considering available methods by which venereal disease prevalence may be determined, the Public Health Service determined to make a one-day census in a selected number of urban and rural communities in the United States. In accordance with this plan a report is secured from every physician and institution in each

community as to the number of cases of gonorrhea and syphilis, classified by sex and by stage of the disease, which are under treatment on a given date. This study was carried out by the American Social Hygiene Association in Detroit and Atlanta last year and it is being continued by the Service in cooperation with the local medical profession and the respective State and local health departments in two- or three-score communities in the United States. Two cities (Decatur and Peoria) in Illinois have been surveyed by this method. The case incidence per 1,000 population in these cities and in Detroit are given in Table No. 1.

TABLE 1—PREVALENCE OF VENEREAL DISEASES

Rates per 1,000 population of Syphilis and Gonorrhea for males and females.<sup>1</sup>

City	Male			Female		
	Total	Acute	Chronic	Total	Acute	Chronic
TOTAL SYPHILIS AND GONORRHEA						
Detroit <sup>2</sup> .....	17.86	7.87	10.00	8.52	2.92	5.61
Decatur .....	19.49	8.54	10.95	9.88	3.33	6.55
Peoria .....	19.07	6.40	12.67	8.44	1.57	6.87
SYPHILIS						
Detroit .....	8.29	3.14	5.15	5.50	1.69	3.81
Decatur .....	10.56	2.74	7.82	6.09	1.31	4.78
Peoria .....	7.79	1.37	6.42	4.96	0.52	4.44
GONORRHEA						
Detroit .....	9.58	4.73	4.85	3.02	1.23	1.80
Decatur .....	8.93	5.80	3.13	3.79	2.02	1.77
Peoria .....	11.28	5.03	6.25	3.48	1.05	2.43

<sup>1</sup>The estimated population as of July 1, 1927, was used for Decatur and Peoria; for Detroit the estimated population as of July 1, 1926. Tentative figures subject to final corrections.

<sup>2</sup>Data for Detroit from American Social Hygiene Association.

The information from these and other cities warrants the statement that approximately 1.5 per cent. of the city population in the United States is constantly under treatment for gonorrhea or syphilis. The amount of gonorrhea and the amount of syphilis under treatment is approximately equal. Reliable information from the United States Army and Navy and from the British and other foreign military forces is to the effect that at least four cases of gonorrhea occur in the male for every case of syphilis. This being the case, it is obvious from the data secured by the census of cases under treatment in the selected cities, that a relatively small proportion of gonorrhea cases seek medical service. The information furnished by the physicians and

institutions in these cities will be carefully tabulated and interpreted in an effort to translate the figures into terms of annual incidence of gonorrhea and syphilis in the male and in the female.

You may be interested to know that in the cities for which information is available approximately 70 per cent. of the cases are receiving treatment at the hands of private physicians, the remaining 30 per cent. being treated in clinics, free wards of hospitals, jails, asylums, et cetera. (See Table No. 2). The private phy-

TABLE 2—PERCENTAGE OF CASES OF VENEREAL DISEASE

Gonorrhea and Syphilis treated in clinics or institutions and in private practice.

Name of City	In Private Practice	In Clinics or Institutions	Total
Decatur .....	62%	38%	100%
Peoria .....	91%	9%	100%
Detroit .....	69%	31%	100%

sician, then, is still the greatest factor in the control of the venereal diseases, and the efforts of health authorities should be directed not only to furnishing treatment for indigent cases, but towards interesting the average practicing physician in the diagnosis and in the treatment of gonorrhea and syphilis in accordance with modern standards.

A disappointingly large number of physicians in the cities studied report that they do not treat cases of gonorrhea and syphilis. Even more striking have been the statements from specialists that they never see cases of these diseases. It is difficult to understand how an ophthalmologist, for example, can fail to see cases of interstitial keratitis, or how a surgeon can fail to have syphilis and gonorrhea complicating or causing the surgical condition. As health authorities, we should seek to secure a more general recognition of these diseases by the medical profession, should encourage more adequate treatment, should place at the disposal of the practitioner diagnostic laboratory service, and should furnish anti-syphilitic drugs to the physician for the treatment of the indigent persons and those of small means who are under his care. The venereal disease clinic service in the United



States seems reasonably adequate in amount in the larger centers of population. In the cities of under 50,000, however, and particularly in those under 25,000 and in the rural districts, clinic service for the treatment of indigent cases is very inadequate. This is true in Illinois as in other States. It is in these areas likewise that the general practitioner seems especially disinclined to equip himself to give treatment to these diseases in accordance with modern standards. In discussing this problem in "Modern Clinical Syphilology," Dr. John H. Stokes says:

It may be frankly said, then, that at no point in the entire practice of medicine does the profession in the United States face more directly the issue of so-called socialization than in the care of the venereal diseases. It may be said with equal positiveness that there is no evidence of a special disposition to force this issue on the part of State and national health authorities. The disposition of these authorities is in the main to cooperate with and assist the medical profession at large in raising the standard of treatment of syphilis and gonorrhea. It may be said with equal frankness that the profession is directly challenged by the undoubted success of organized public administration of the venereal disease problem. If the private practitioner wishes to maintain his control of this field he must raise his standard to that of the public service. He must, moreover, take over to himself and become an integral part of public activity in this field for the benefit of his patient. Only by developing and utilizing the public laboratory as a diagnostic aid, for example, and by furthering and availing himself of the superior effectiveness of the venereal disease clinical center in diagnosis and follow-up, can he continue his leadership. No mere outcry against socialization can avail to protect the individual values in this field from submergence in the face of technical inefficiency, slipshod methods, antiquated notions, outright ignorance and indifference that have marked the reactions of too large a proportion of medical men toward these problems in the past decade. The practitioner can hold his place by achievement, not by titular right.

In order to record definitely the attitude of the Public Health Service, I will quote for your information a resolution sponsored by the Service and passed at a conference of Venereal Disease Control Officers at Hot Springs, Arkansas, in December, 1924.

*Resolved*, That no clinic supported by Federal or State tax funds, in whole or in part, should treat patients who are able to pay. However, every person applying at the clinics shall receive an examination and in all frankly infectious cases there shall be no delay in instituting treatment.

It is further resolved that the clinicians of such clinics should confer with the county societies and local

physicians regarding the method and manner of referring pay patients for private treatment.

It should be recognized frankly, however, that in the treatment of syphilis, especially, the economic consequences of the disease for the person of small means often forms an insuperable obstacle to complete arrest or cure. Nothing short of a complete arrest of the disease should be a satisfactory result wherever attainable. The future effects of inadequate treatment of syphilis and, to a lesser extent, of gonorrhea, impose a physical burden on the race and financial burdens on society too great to be allowed to continue unchallenged. Any changes in the organization of medical service necessary to meet this and other needs obviously should evolve from within the medical profession itself rather than be forced from without.

Thus far I have emphasized only the necessity for knowing the prevalence of these diseases and the necessity of securing adequate and complete treatment for the case. The interest of health authorities should lie also in the larger field of prevention. In this as in other diseases, education is an important factor. The Public Health Service advocates frank instruction concerning sex in the home and in the school. This instruction cannot be given in the home until parents themselves learn the scientific facts concerning sex as a physiological attribute;—until they learn the influence of sex in human development, in character formation, in mental health, and in furnishing the inspiration for much of human accomplishment. This is primarily a function of educational authorities, but health officers should interest themselves in it as an emergency measure in order to bring to educators the importance of carrying out sex education, which is one phase of the broader problem of health education, as an essential and integral part of school curricula.

It should not be forgotten that the venereal disease clinic furnishes the best possible medium through which to carry out educational effort among the very type of people for whom instruction is most needed. Assisting the physician in this a social service follow-up by trained workers is essential. At a recent conference of the leading venereal disease clinicians<sup>1</sup> it was unanimously agreed that follow-up service in the venereal disease clinic is as essential to successful operation

1. Venereal Disease Information, Vol. 8, No. 3.

as is a microscope and a supply of salvarsan. Of the 460 cooperative clinics in the United States, however, only 286 have any type of follow-up service<sup>2</sup>. This follow-up service should seek to return recalcitrant cases for completion of treatment and to bring familial and other contacts under treatment. It should also investigate the financial status of patients and assist in the ever present problem of social adjustment presented by the patient and his family. Although gonorrhea and syphilis are widespread, it is my opinion that there are in any one city at a given time relatively few active spreaders of infection and that the same principles of epidemiology and the same principles of following up sources of infection are as applicable in this field as in the control of typhoid fever or smallpox. In each disease a special technique is necessary, but the same principles apply. This does not imply wholesale arrest and detention of prostitutes but it does demand intelligent and selective search for and control of active spreaders of disease. In addition, health authorities should place their services at the disposal of the practicing physician in the interest of assisting the physician to keep his irresponsible cases under treatment.

The physician in the clinic or in private practice very definitely fails to discharge his full responsibility if in addition to giving proper treatment he does not instruct his patients carefully as to the prevention of the spread of the infection to others and in preventing reinfections, by all means available, including prophylactic and early treatment measures. In military forces these measures have reduced markedly the incidence of the venereal disease but as yet no plan has been put into satisfactory operation among the general population. The inherent difficulties are obvious and have deterred the majority of health officials from the general advocacy of personal prophylaxis. The situation as regards the patient who is already infected, however, is very different. Educational efforts here have failed. It is the job of the physician to salvage the wreck, to prevent dissemination of the infection and to prevent a reinfection.

The primary function of any Government is to provide for the public welfare and safety. Under this fundamental authority it was recognized early in the course of civilization that the pro-

tection of the community from disease, particularly the communicable diseases, was a primary duty of a government, and as a result boards of health have been in existence for many years. Of all the diseases which are a menace to society, of all of the diseases which impose a tax on the vital and financial resources of the race, the venereal diseases take first place. Therefore it would seem to follow logically that health departments should give first consideration to measures for the control of these diseases. Until very recent years, however, this problem has been so obscured by false modesty on the part of the public, and even by false modesty on the part of the medical profession itself, that the problem was totally ignored. Even now we are just beginning, figuratively speaking, to peek around the corner at the facts which are being forced upon us by reason of the prevalence of these infections. Even in this enlightened day some physicians maintain that the furnishing of free treatment for the venereal diseases removes a deterrent to exposure. This argument seems to me exactly similar to that advanced so vigorously by a few pious persons following the discovery of anesthesia. They denounced this discovery because it thwarted the will of God by removing from human beings the punishment of pain; pain in their estimation being a just reward of sin. The argument that venereal diseases should not be treated free because they are a just reward for transgression of moral laws has no stronger support than the argument against the use of anesthesia to relieve pain. If these diseases are to be controlled at all they will not be controlled by fear. They will be controlled by a knowledge of the facts; by appealing to the higher instincts of man; by observing extra-marital continence as a social and biologic necessity; and by arousing the race instinct to maintain pure and undefiled the germ plasm of which we are temporarily the keepers.

Just to the extent to which these efforts fail will it be necessary for us to continue to require, in the interest of the race, medical treatment for every infected person. This requirement implies the additional responsibility of the State to furnish treatment, compulsory if necessary, to those who are unable or unwilling to secure such treatment for themselves.

2. Unpublished data, U. S. P. H. S.



TABLE 3—PREVALENCE OF GONORRHEA AND SYPHILIS<sup>1</sup>

In Rates per 1,000 Population

Name of City	Rate per M Gon. & Syph.	Rate per M Gonorrhea	Rate per M Syphilis
Detroit, Mich.....	13.47	6.50	6.98
Peoria, Ill. ....	13.74	7.37	6.37
Decatur, Ill. ....	14.64	6.34	8.30
Eldorado, Ark. ....	10.50	5.93	4.57
Texarkana, Ark. ....	16.22	7.81	8.41
Huntington, W. Va....	10.49	4.02	6.47
Wheeling, W. Va.....	13.29	4.93	8.36
Logan (County), W. Va.	9.58	5.19	4.39

<sup>1</sup>Preliminary tabulations subject to final correction.

## DISCUSSION

Dr. I. H. Neece, Decatur, Illinois: Dr. Parran has covered this field very thoroughly. I do not know just what I might say to add to this very lucid paper, except from an experimental standpoint. As Clinic Director for the last eight years of one of the clinics of the State, I have seen many cases come and go and am still seeing them come and go. It seems like an endless chain. In checking over to find the solution for this continual condition, I am wondering if our control measures are operating as they should, and whether we can depend on the Wassermann test for diagnosis of syphilis and salvarsan to cure it. When it comes to gonorrhea, the problem is even greater than that because we have nothing even approaching a specific. So our medical measures have not measured up as we should like. And yet, viewed from the economic side of the question, I am sure that, from a medical standpoint, we have salvaged a good many people today who would otherwise be public charges, and a good many of them would be in our State institutions.

Notification has not altogether saved the day. I believe, as the chart which Dr. Parran has presented, showed that fewer physicians are reporting their cases of venereal diseases today. There has been a letting down along that line for obvious reasons. There are a number of things, however, that enter into this problem. As it relates to the case in point, every physician or every one who assumes the role of a syphilographer should endeavor to carry treatment clinically to a satisfactory medical outcome. To do this thing, certain factors are involved.

The most important is the responsibility of the physician who assumes the role of treating syphilis, of instructing this particular patient to follow through with his treatment. He should have explained to the patient the seriousness of the infection which he has, and when this has been done, his efforts probably will avail something. As to the prevalence of venereal diseases, we have no definite way of determining. We are finding many late cases. In going over or examining patients for other things, we find syphilis which is not elicited in the history. We see our victims in every turn of the road. They handle our food; they make our beds. They are our nurse girls and maids. In industry, they drive our locomotives, automobiles, elevators

and all those various things. They are everywhere.

But getting back to the solution of the problem, education to me seemed to be the most logical of all the methods that we have. The major portion of those who are infected are usually young boys and girls in the adolescent period. That carries us back to control measures, first in the home. It is my personal opinion, and it is borne out by the type of patients that come to our clinic that most of these cases come from broken homes. There is something wrong in the home life which is responsible. So, with so many of our patients, it is not information, it is mis-information that these folks have. These youngsters know a great deal. But the trouble is, they have gotten their information from the wrong source. They have gotten it from street corners, they have gotten it from older associates and they have gotten wrong information. So, what these people need most of all is guidance and that guidance should come from the home; not only from the home but it should come from the public schools, as Dr. Parran has suggested.

We are beginning to speak of venereal diseases today as a subject that can be discussed in polite society. We are not afraid to talk about these social diseases in church and in public and we have kept it very largely the last few years before the public, because we know that there is an economic side to this question.

Sex delinquency is another thing that gives us our problem. What are we going to do with them? Well, a great many people have a chance at them. Our social workers, our visiting nurses and the follow-up workers are the most important. As has been said, we find that the social worker or the police matron or whatever title she may have, is the one who is able to do the most effective work. It is true in our clinic that, when we had a follow-up worker who regularly checked every case, the incidence of venereal disease was greatly reduced; but since the influence has been taken away, and another substituted, our work in follow-up has shown its results by an increase in incidence in the clinic. So when it comes to control measures, the *clinic* must educate them, the *church* must educate them, the *home* must educate them.

I noticed an account just the other day of the reasons we have sex delinquents. It was a very startling thing, "The growing menace of immoral publications." You go to the news stand and see what the news stands and the magazines are putting out. These are polluting the whole stream of thought under the guise of literature. They call it literature and they call it art. There is where the youngsters are getting a great deal of the material which makes for delinquency. Most of these are given over to the study of erotic pictures, refined obscenity and sex stuff. That's what they are reading today. Their attention is being called to these things which appeal to baser factors of life, the very thing which we are talking about today. There is only one motive behind it and that is commercial. That thing must

stop. If we will put on a program of doing away with the obscene literature which is the stimulating and exciting influence which jeopardizes the morals of youth, then we will make some strides towards controlling it. The other is the change in public opinion. If we can keep before the public the menace that venereal disease is to the whole social fabric of the communities, if we can focus the opinion of the people relative to this menace, I am sure we will go a long way towards controlling it.

## SOLITARY SEROUS RENAL CYSTS

### REPORT OF A CASE

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Solitary renal cysts are still considered a rare pathological entity. Less than ten years ago polycystic renal disease was considered unusual enough to make case reports. At that time polycystic renal disease was recommended by some urologists for removal, since its bilateral nature was not well known, although suspected by many. With the advent of modern urographic technic, with the discovery of post-mortems of its bilateral incidence, our knowledge of polycystic renal disease advanced. Similarly we may emerge soon with more information about this so-called rare solitary renal cyst.

Mosti classifies renal cysts etiologically:

- A. False cysts:
  - a. Tumor softening.
  - b. As a result of hemorrhage inside the renal parenchyma,
    - 1. Of neoplastic origin.
    - 2. Tuberculous origin.
    - 3. Essential hematuria.
  - c. Tuberculosis.
  - d. Encysted hydronephrosis.
  - e. Echinococcus.
  - f. Cisticercus.
- B. True cysts.
  - a. Polycystic,
    - 1. Vera, in children and adults.
    - 2. Calculous.
    - 3. Tuberculous.
  - b. Serous, (rene cistico solitario).
  - c. Cysts of chronic sclerosing atrophic nephritis.
  - d. Dermoid.

Up to 1911 Brin collected 53 cases in the literature. From 1911 to 1916 Chiasserini collected 15 others. Laquiere brought the reported cases to 1925 up to 119, adding thereto 5 cases of his own. I was able to find the following additional cases: Chiaudano, one in 1924, G. G. Smith, one in 1924, Clute, 3 cases in 1924, Quinby, Reinicke, O'Neill, one case each in 1925,

Santoro, Kirwin, one case each in 1926. This brings the total to 134.

A consideration of the origin of solitary, serous renal cysts evokes three possible theories:

1. Neoplastic, due to a proliferation and abnormal secretion of renal epithelium. This theory may be abandoned as the cyst is neither anatomically nor clinically a neoplasm.

2. *Mechanical*. This, the retention theory, is the oldest. An occlusion of a tubule could occur by plugs of fibrin, desquamated epithelium or a sclerosis in interstitial nephritis. In such a case the epithelium should be modified renal epithe-



Fig. 1. Kidney with cyst in upper pole. Weight of kidney, 78 gm., rather light for a man 6 ft. 2 in. tall.

lium and the cystic contents more or less modified urine.

3. Congenital or dysembryoplastique (Ruckert, Letulle and Verliac). According to these men the origin would be due to malforming or defective development, such as failure of the secretory and collecting tubules to unite. Braunworth found small cysts in fetal kidneys. In this connection, what tissue constitutes the cyst? Duplay says it is medullary and it depends on the interstitial tissue. Rayer and Le Dentu claim the perivascular tissue as its origin. Sabrazes sees a lymphatic or vascular origin: 1, in preparations the epithelium resembles vascular endothelium, 2, the character of the liquid, al-



bumin, the absence of mucus, etc., prove an exudation, the cysts forming at the expense of a primitive vessel.

In 1923 Kampmeier proposed a mode of origin of renal cysts on a congenital basis that seems to me to explain both polycystic and solitary cyst-



Fig. 2. Pyelogram showing absence of middle calyx and narrowing of superior calyx of right kidney.

tic renal disease. According to his investigations of fetuses, whether the kidneys are the seat of solitary cystic disease or polycystic disease, mere accident determines. Rienhoff in 1922 by culture of the metanephros of a 6 day chick embryo has well shown the formation of the permanent urinary secretory and excretory system. In the older human embryo Kampmeier firmly establishes how in this connection "every human individual during his fetal life normally passes through a period characterized by the presence of numerous cystic renal tubules."

The ureters, pelvis, calyces and collecting tubules originate from the ureteric bud of the primitive Wolffian duct of the mesonephros, which bud grows into the undifferentiated metanephrogenic blastema which always caps the blind end of the bud. By dichotomous sprouting one part of the blastema which is to become the secretory glomerule and convoluted tubule is carried onward, while small portions of the blastema re-

main behind near the renal pelvis or angle between the collecting tubule and pelvis. This metanephric spherical cap, as described by Rienhoff, develops into the glomerule and convoluted tubule by a rearrangement in situ of the undifferentiated cells of an inner layer of endothelium (leaving a lumen by dissolution of the inner core cells), and outer layer. The lagging spheres vesiculate in the 7 week embryo, and are medullary in position. According to Kampmeier these vesicles may persist as such; others form short curved segments; some develop a simple coil without a glomerule; some show attempts at tubular development. It is exceptional for them to be actually differentiated histologically. These spherical anlagen are to be considered then as the primary or vestigial uriniferous tubules. The metanephrogenic blastemic caps around the blind secondary sprouts of the primary collecting tubule, appearing in a six weeks embryo have already developed a tubular phase, to be known as the secondary uriniferous tubules. A large number of these secondary tubules temporarily join

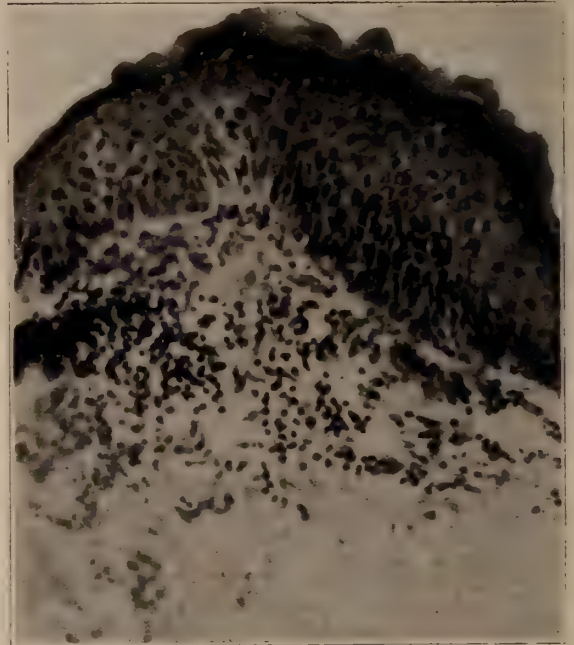


Fig. 3. High power of cyst wall showing close resemblance of layers of cyst wall to skin.

the collecting ducts of the same order. According to Kampmeier's description, some of them soon develop a small diverticulum at their junction with the collecting tubule. This diverticulum grows longer peripherally and somewhat later

unites with a collecting tubule of the fourth or fifth order. In the meantime, the earlier connection with the duct of the second order is lost. But some retain their original connections in various forms with the collecting duct just above their opening into the major renal calyces, the former primary collecting ducts. In a two and one-half month's fetus degenerative changes occur in these enlarging and widening secondary uriniferous tubules, indicating cystic transformation. In the 3 to 5 months' fetus the cystic distention commenced at the junction of the uriniferous and collecting tubules involves Bow-

present small cysts. The affected kidney may contain double or triple cysts as in one of Laquière's cases. A summary of the literature discloses that the disease occurs mostly in adults. Our interpretation of this age incidence must necessarily admit that the development of the cyst sufficient to create symptoms was slow. Since the symptoms depend on the size and its effect by pressure on the kidney, ureter and neighboring organs, obviously many renal cysts may go unrecognized. Females represent the subject in 70% of cases. The right kidney and the poles are the seats of predilection; the lower pole is involved in 40% of cases, the upper in 21% and the convexity of the kidney in 7%. The size of the cysts may be very minute, or as large as one reported by Cassioli with a capacity of 12 liters.

The cysts are usually round or ovoid, rarely pedunculated. The kidney parenchyma is continuous and intimately connected with the wall of the cyst. The cyst is always intra capsular. Histologically the cyst wall consists of two layers, 1, the internal (epithelial or endothelial) which may be flattened by pressure of the fluid contents, 2, the external layer formed by loose and concentrically placed fibrous connective tissue. In the wall one often finds islets of renal parenchyma, tubules and glomeruli more or less obliterated. This outer wall blends insensibly with the kidney parenchyma, but is always separated from the calyces or pelvis. The neighboring renal parenchyma may show pressure atrophy and by pressure on a calyx, the pelvis or ureter, a hydrocalyx or hydronephrosis may be produced.

The cystic fluid can be clear, turbid, serous, bloody, colloidal. Philipson has found intracystic calculi, desquamated epithelium, blood cells, leucocytes. Kirwin reports a calcified renal cyst. Chemically, there are variations. Urea often exists, but may be absent; albumen is at times abundant. In the cases of Quinby, O'Neill, and Patel and Mallet-Guy, the non-protein nitrogen or urea approximated that of the blood serum. In the cases of the latter two, the specific gravity was that of urine.

The symptoms of solitary serous renal cyst vary, and are not typical. They may be those of renal tumor as a result of pressure, hydronephrosis, pulling or dragging on the kidney be-

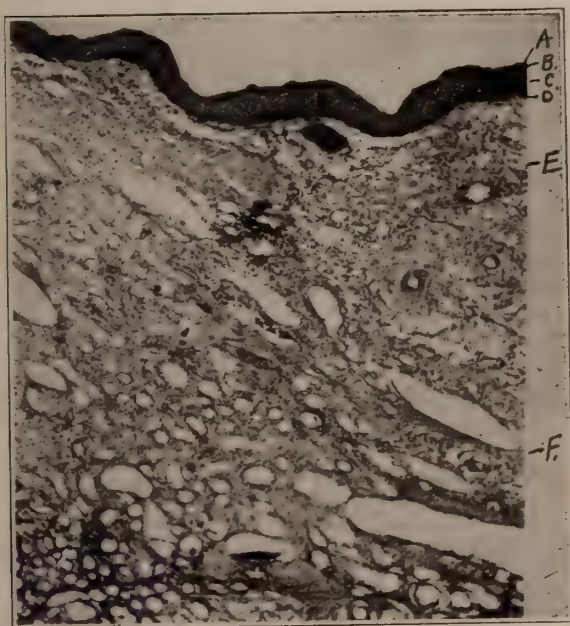


Fig. 4. Low power magnification showing wall of cyst. A Cornified layer; B. Stratum lucidum; C. Stratum granulosum like layer; D. Cylindrical cell layer; E. Layer corresponding to subcorium with round cells; F. Kidney parenchyma.

man's capsule, compressing the tubular epithelium and making it appear squamous. The lumen from the beginning contains a yellowish, colloid-like material probably secretory in origin. The greatest number of these cysts occurs probably by the end of the third or beginning of the fourth month of fetal life. Normally these cysts disappear by degeneration of the epithelium which may collapse or shrink away from the surrounding mesenchyme or they may be compressed by the growth and crowding of the normal structures on both sides of it.

According to Brin the opposite kidney may



cause of size and weight, destruction of renal parenchyma, pressure on the neighboring organs. Hematuria is as a rule not present because there is no connection between the cyst and the urinary excretory apparatus. As in any other renal tumor pyelography may reveal filling defects due to encroachment of the cyst on the pelvis or calyces. The cyst may attain such size as to enable one to detect it by palpation or ballottement.

As to treatment, wherever possible a resection of the cyst should be done. Nephrectomy may be necessary either at the beginning or secondarily because of uncontrollable hemorrhage following cuneiform resection.

The case I have to report is one whose symptoms were out of all proportion to the pathology found. It is peculiar also in that the wall of the cyst aside from the absence of hair follicles, sebaceous and sweat glands can scarcely be differentiated from that of integument. Cornification is very marked.

V. G., age 22, referred by Dr. E. A. Lutton, complained of repeated attacks of typical renal colic in the right side. His first attack occurred one year ago. Since then he had four attacks, the last one occurring February 1, 1927. At no time did he notice any gross blood in the urine. Each attack was accompanied by vomiting but no chills or temperature. Although he had to get up once at night to urinate, he had had no frequency of urination during the day, nor were there any other urinary difficulties. In the last seven months he had lost twenty-five pounds in weight. Prior to the onset of this trouble he had been perfectly well. Parents living and well. No venereal disease.

On examination the patient was a tall male, well nourished, weight 170 pounds. A general examination revealed nothing abnormal. Neither the kidney nor any mass was palpable. There was costovertebral tenderness on the right side. There was no indication of mobility of kidney.

The urine was normal excepting for many squamous cells of the bladder type. Repeated examinations by smear revealed no tubercle bacilli. Phthalein administered intravenously appeared in three minutes on the left side and four and a half minutes on the right side. The output in 15 minutes was 11 per cent on the left side and 10 per cent on the right. Number 5 catheters were used and there was leakage of urine around the catheters. The pyelogram (q. v.) showed a filling defect of the right kidney pelvis; the middle calyx was absent and the upper calyx was only partly filled. The right ureter was greatly dilated.

The urine from each kidney was normal. The blood non-protein nitrogen was 27.6 mgm. per 100 c.c., and the creatinin 1.5 mgm. per 100 c.c.

The preoperative diagnosis was tumor of the kidney, probably hypernephroma. February 9, a lumbar

incision was made and a very small kidney was exposed. Freeing of the upper pole was extremely difficult and during the manipulation the pole was torn, permitting a discharge of a grayish, slightly turbid fluid in which floated out numerous caseous like particles. I then felt I was dealing with a tuberculous kidney, and proceeded to do a nephrectomy. As the patient's condition became somewhat alarming I left clamps on the pedicle with but one ligature. A blood transfusion was necessary several hours later. The patient left the hospital March 8 recovered. He put on weight rapidly while still in the hospital.

Pathological report. The kidney was small, weighing 78 grams. The capsule stripped easily and on the convex surface the cortex was indented, with the capsule there adherent as in a fetal lobulation. In the upper pole of the split kidney was revealed a cyst with shiny lining, measuring 1 cm. x 1.5 cm. x 3 cm. There was no connection with the pelvis. In the sections from the wall of the cyst the inner lining is composed of a thin layer of squamous epithelium with keratinization. As shown in the microphotograph the epithelial layers appear almost identical with the histology of skin without its appendages. Beneath this epithelium is a layer of loose fibrous tissue and then denser fibrous tissue. In the former in places are deposits of round cells. The second layer blends with the parenchymatous structure of the kidney, as in other descriptions of solitary cysts. The contiguous renal parenchyma reveals scattered areas of interstitial nephritis.

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## AN INNOVATION IN RECORDING STATISTICS FOR CITY HEALTH DEPARTMENTS\*

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A review of the investigations and surveys carried on by state and national public health organizations, relative to the collection, filing, and graphic presentation, of health statistics shows that this phase of municipal health work is usually and invariably the weakest part of a health officer's programme.

If this be true, it seems feasible to briefly consider why local statistics are needed in a health programme and what methods are available for accurately recording same.

*Value of Statistics.* In a given community a good bookkeeper of life and death is essential; if the trend of disease dissemination is to be followed, if areas are to be located which require special public health measures for the prevention of disease, and if the practical application of curative and preventive health measures are to be scientifically studied and presented to the community. Statistics tabulated with these

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thoughts in mind are in great demand by local industrial concerns, safety councils, school authorities and particularly city, state, and national health workers.

If these records are essential, let us ask as to how many cities in Illinois keep accurate records? A review of the recent survey conducted by the State Department of Public Health and the United States Public Health Service in fifteen of the large cities (of Illinois) shows that this phase of public health work needs to be encouraged. Furthermore, all cities do not utilize the same system which means that the personal equation factor plays a large part in the final tables prepared.

As an illustration let us take the matter of mortality statistics. It is accepted that the International Classification of the causes of death should always be used in compiling death tables and graphs for a given community, county, or state. Let us ask as to how many cities utilize this list, and are all death certificates conscientiously studied as to their proper classification. Some cities, it must be admitted, use an abbreviated list, others devise one of their own, and still others leave the classification of deaths to an office girl instead of a medical man.

If this is the case, what has been the effect? First, death certificates do not reveal the true cause of death, and secondly, a distorted mortality picture is depicted of the city, the county, and the state.

By adhering strictly to the International Classification, death certificates of indefinite character can be located and the attending physician, undertaker, or the informant, as the case may be, consulted relative to correcting same. *If the registrar does not check errors, how can we expect the physician or undertaker to do so?*

One may say that all this attention to detail takes too much time, is not worth while, and sufficient help is not available for carrying on this work. As to this, let it be said that all statistical recording can be quickly and accurately taken care of by making use of one of the many excellent card systems now on the market. In fact, consultation with any of the reliable card index firms shows that the compiling of health department statistics is merely another problem of stock keeping which can be easily carried out if proper forms are used. Realizing and appreci-

ating this one of these firms was consulted who devised the visible file system covered in this paper.

*Statement of Problem.* Before describing this particular system, let us see what the compiling of vital statistics really consists of. In simple terms it may be said this compiling is merely the tabulating of all the items contained on death certificates. On first thought this seems like a simple task, but when one takes into consideration that there are 62 possible items on a single certificate, and granting that there are 250 possible international causes of death, this means that there are 15,000 entries that must be accounted for. This large number perhaps gives some clue to the cause for so many varied systems being used by health departments.

*Selection of System.* If this is our problem, what are its possible solutions? In the larger cities of the country where thousands of birth and death certificates must be handled annually, the use of a "Hollerith and Powers Tabulating and Recording Machine" finds practical application, which is without doubt the most reliable and accurate system yet devised.

For medium sized cities and towns of limited funds, however, these machines are out of the question because of the prohibitive monthly rental of \$75.00. If prohibitive, the use of tally sheets may be considered, which come nearer solving the problem but are objectionable from the standpoint of size, difficulty of handling, ease with which errors creep in, and finally, recapitulations, summaries, or trial balances, as they may be called, are difficult to obtain.

If these two mentioned systems do not solve the problem, let us next consider the possibilities of a card system. Immediately the statistician says that this is out of the question because of the large number of different items that must be taken care of on each certificate.

By observing one of the cards in this system it is to be noted that all items of a death certificate have been conveniently entered on a card that is 18 inches long and  $3\frac{1}{2}$  inches wide, which means that 250 cards are necessary for an entire year. Also, each card is subdivided into thirteen divisions which permits an entry for each month and also a summary of the year at the top of the card.

*Application of System.* As to the practical

application of the system, let us take the compiling of 100 death certificates for a given month, which must be classified according to the international list.

To begin with, each certificate is classified according to cause of death and division numbers located on this board, and its particular division and death number are recorded in the upper left hand corner of the certificate with pencil. Having tabulated all the certificates, they are next assorted according to divisions and death number, following which all the items of each certificate are tallied on their respective card in pencil. All that remains now is to add all tallies and enter same in indelible ink. At this point it is interesting to note that the quality of the paper used in these cards is such that pencil marks may be easily erased without marring the card in any way.

Actual observance of the time taken to classify and record 100 certificates shows that it takes about three hours which, it must be admitted, is less than that required with other systems.

*Flexibility.* Should an abbreviated report of the month's deaths be desired for local publication, all that is necessary is to take the divisions desired and quickly add same from each card. The same also applies to age, sex, occupation, and nativity for all the certificates, a selected group, or even an individual cause of death.

*Visible Curve.* By referring to the horizontal red line noted on the top of each card it will be seen that this affords a visible graph at all times as to which deaths are excessive and which ones are receding or remaining stationary, a feature of great value in publicity work and for local citizens who visit the department.

*Arrangements of Cards in File.* A noteworthy feature in the arrangement of the cards in the file is found in the fact that the divisions and death numbers are reversed, which lessens the number of cards the clerk must handle when making rapid entries.

*Practical Application to Other Activities.* By having some of the cards printed without headings, these may be used for collecting data on births, contagious diseases, bureau activities, laboratory tests, or even finances by merely inserting new headings as shown on the sample cards. This is a feature of value to the health officer in noting progress made by sub-bureaus,

and also defects readily show up which need rectifying. In other words, here is a system that can be used for recording in visible form all the activities of a health department for an entire year.

*Annual Report Advantages.* Of especial value is this Kardex System in preparing annual reports inasmuch as very little time is consumed in making a summary of the year's work. In fact, all that is necessary is to add each column and record same at the top of the card.

*Filing.* For future reference when the year's work is completed these cards may be filed in a drawer with each section, division, or bureau, as the case may be, labeled with a good quality linen tab.

As to the permanent indexing, filing, and cross-indexing of births and deaths the system used at Rockford consists of an alphabetical, visible card file containing the name, address, date, parent, and volume of the year book in which the certificates are securely and neatly bound in leather.

*Cost of System.* These files of which at least two are needed cost \$15.00 each, and the cards come to \$58.00 per 1000. In other words, the total initial cost is \$88.00 which allows sufficient cards for four years. Should two or more cities combine in obtaining this system, the price of card printing will, of course, be reduced. For those who object to a visible file, a cabinet drawer file can be secured and the entire system placed near the health officer's desk for convenient reference.

#### ADVANTAGES

1. Actual experience shows that this system is simple, rapid, and accurate for the recording of health statistics.

2. Its flexibility which permits of rapid expansion is noteworthy.

3. Accurate data can be compiled at any time covering one to several months or even an entire year.

4. Its application to all activities of a health department is a feature of note.

5. The visible graph of progress made in each item or department is of great value to the department itself as well as the community.

6. The system can be elaborated to fit peculiar local needs.



## CONCLUSIONS

The collecting, filing, and graphic presentation of health statistics on a visible Kardex System presents features of uniformity, simplicity, and accuracy, which perhaps warrants an investigation on the part of the health commissioners.

## DISCUSSION

Dr. Arlington Ailes, LaSalle: It goes without saying that we need some accurate and easily accessible way of keeping our vital records. There is no question but that we have to go to our appropriating bodies to get funds to maintain the health department. We need also to create public sentiment in order to have a background of influence affecting favorably these appropriating bodies. We can do neither of these things creditably without some system of records as Dr. Gunderson here displays and when I received his paper I was very much impressed with this feature.

Now in discussing his method, I think that I will do so from the standpoint of Dr. Gunderson's own reasoning. He has been around to various places, looking over their health departments and asking himself the question, "Why don't all communities use a similar method?" When I saw this in reading the paper, I thought one of the ways of testing it would be to ask myself a question and then see if I could answer it by examining Dr. Gunderson's chart. I recall that a few years ago a man connected with a State Health Department stated that the only age period in which the tuberculosis rate was not declining was in young adolescent females. So, I asked myself, could I get that answer out of Dr. Gunderson's chart. I looked for tuberculosis, but the answer cannot be found. It would show in the records, which we keep at the Hygienic Institute for LaSalle, Peru and Oglesby. And again, we are told that the diabetic death rate of women past 40 years of age is much higher than for men of the same age, and Dr. Gunderson's chart won't show that. In other words, he does not show age periods by sex or color. He might do that by a little expansion of his record cards, making them a little longer and possibly a little wider.

(Here Dr. Ailes illustrated, by means of a blackboard, how the cards might be expanded to allow an analysis of a disease by case or death, and by sex.)

Now Dr. Gunderson might have considered this feature, and he might have thought that his cards would be entirely too big and impractical for it. In our records at the Hygienic Institute, we tabulate everything we do in a loose-leaf book, which is 8½ by 11 inches. Our detailed information and everything we do is recorded there on proper forms. Our monthly summary is made from this detailed information and the yearly summary from the monthly.

Another reason why I don't believe that we could ever adopt Dr. Gunderson's system in our commun-

ity is because we are dealing with small communities. For instance, we have three towns which aggregate 30,000 people. LaSalle has 15,000, Peru has 10,000 and Oglesby 5,000. Dr. Gunderson requires 250 cards to take care of his International List of Causes of Death. The city of Oglesby has only 50 deaths a year and for that reason you can see, if we have just one death analyzed on a card we would need only one-fifth the number of cards in a set. The same thing is true in the city of Peru, where we have only about 100 deaths a year and would need only a fraction of the cards in Dr. Gunderson's set. Of course Dr. Gunderson tells me that you can get the cards blank and write in the particular headings or the name of the disease, so that you wouldn't need the entire set. At any rate, in our community, we would have a large number of these cards on which we would have only one death analyzed.

In our three cities we have only about 330 deaths a year. We have a capable man, who can analyze these in little more than a day's time, getting off all the information we need, by sex, nationality, and various other classifications. There are things in Dr. Gunderson's chart which we cannot get out of ours nearly as readily as he can. For instance, his is classified by dairies, school districts, etc., which enables him to have readily accessible valuable information.

I just want to say in conclusion that if LaSalle, Peru and Oglesby were in one city of 30,000 I would seriously consider Dr. Gunderson's system. I think that for cities of this size and up it becomes more and more valuable, until you approach the size where they can adopt a mechanical system of tabulating. I think health officers of the size cities mentioned would do well to consider Dr. Gunderson's method.

Dr. Gunderson, in response: Dr. Ailes has brought out the thought that this system perhaps is too elaborate and detailed for a small town, which may be true. For these towns it is suggested that an abbreviated list of the causes of death be used as suggested by Whipple which includes only 26 items.

As to dividing the list still further as to sex similar to that used in the area under the jurisdiction of Dr. Ailes, let it be said that this thought is well taken but is not included in this system for the reason that it would make the entire system too lengthy for practical use.

In conclusion I wish to state that an urgent need exists throughout the entire state for uniform statistics and does it not seem feasible for the State Department of Public Health to instigate a practical system that is applicable to all cities and that each city use this system? If this is done, comparisons will be accurate and the data compiled will be of great value in the progress of preventive health work in Illinois.

## LAWS REGULATING THE PLACEMENT OF ILLEGITIMATE BABIES IN HOMES FOR ADOPTION\*

ROY JAMES BATTIS

State Superintendent of Child Welfare

SPRINGFIELD, ILL.

For a number of years, past, social service agencies throughout the State of Illinois have been, as in other states, greatly perturbed over the promiscuous placing of babies born to the unwed mother without due regard being given to the future of the child and to safeguarding the interests of the family taking it

Both of these features of child placement are essential if the highest degree of posterity of this, and other states, is to be given just consideration; and those interested in social service are warranted in looking upon this seeming lack of responsibility as one of the great problems of the child welfare field

How to overcome this situation, in the interest of both child and mother, has been to them a most perplexing problem. Because of the nature of their work, which is actuated along purely philanthropic lines, they have felt themselves called upon to establish certain regulations within their various organizations making it obligatory upon the medical profession, together with maternity hospitals and homes in which they operate, to report activities in this connection, that the social workers might have an opportunity for making searching investigations into the family background of the unwed mother and, if possible, bring the guilty "man in the case" to justice or at least obligate him to pay the resultant expenses of the wrong which he had committed.

While this policy would seem just, both to the mother and to the child, it has reacted in a most embarrassing manner. The unwed mother, in many instances a girl in her teens, has been the

object of scorn in her community, and has been subjected to ridicule and abuse from her parents and relatives. While the child was eventually removed from her and adopted into a good family home, the mother's life has been wrecked and has resulted in greater problems for solution by those affected.

Doctors likewise felt a certain reaction from this situation and although blameless for any overt act were held responsible for the "secret leaking out" and the embarrassment thus caused their patients and their families, a situation seriously affecting their practice. With a view to safeguarding their own interests as well as their patients' and unconscious of any violation of the law, some began to register their patients as married women, and while the mothers were convalescing after the birth of the child, the doctor would endeavor to find a home for the baby. Where successful the baby would be placed for adoption and everything would be well.

This condition might not have been so bad if everything else had been regular; but some of these babies began coming back to health clinics showing symptoms of congenital disease; others with physical or mental handicaps resulting from pre-natal conditions. A number of mothers, fully appreciating their indiscretion and later finding themselves in a position to take care of their child, brought the matter into court to regain its possession.

These were presenting serious problems to the physician. That they might be relieved of any further responsibility they advised their patients to take the child with them when they left the hospital, which policy has resulted in thousands of babies being left on doorsteps, in alleys, garages and other places convenient to the nerve-wracked mother for abandoning her child, with the hopes perhaps that some kind person would find it and give it care and nourishment. Practically all of these have found their way through the various police departments into private orphanages and if possessed with the physical inertia to withstand this exposure, with the care afforded them at these institutions, they have remained as charges upon the community.

All this gave rise to another situation which has received considerable publicity in the press. Baby farms sprang up. Unscrupulous doctors, midwives and even mothers were finding it profit-

\*An expose of conditions surrounding the placement of illegitimate babies in homes for adoption;—laws regulating the procedure;—and suggested improvements wherein the medical profession may assist welfare agencies in protecting the future of Illinois.

The writer takes this opportunity to publicly thank, on behalf of the Department, the Executive Council of the Illinois Medical Society for the courtesy afforded him on Monday, September 12, 1927, in appearing before their society to present this important problem, and further to express great appreciation for the apparent interest of the profession in this problem as expressed in their resolution voicing sympathy in the movement and a desire to cooperate.



able to sell these infants for remuneration, and entered into contracts for their disposition many times without any consideration for the child and much less for the family adopting it. This condition has existed not alone in Cook County but in many of the larger sections of the State. Through this practice babies born in hospitals of adjoining states were mysteriously finding their way to Illinois with no questions asked.

While this has been going on in one phase or another, the matter has been receiving very thorough investigation and consideration by the State Department of Public Welfare, or that section of it known as the Children's Division or Division of Visitation of Children, which deals directly with such problems. Conferences were arranged, one after another, with a representative from this Division and the official staffs of the numerous hospitals, and when made conversant with the laws and departmental requirements governing these matters, and the purpose of this Division, the hospitals have given splendid co-operation. In this connection, we must acknowledge the efficient work of our maternity hospital inspector, Mrs. Edith M. Dick, through whose personal efforts this change has been largely effected.

Working very closely with the Department to bring about a satisfactory adjustment of these conditions has been the Cradle Society which maintains an institution in Evanston, where babies for adoption are given five weeks or more of the very best medical care and attention possible before being placed into foster homes. This effort has brought the Division into more or less close contact with the doctors, and going a step further in order that our plans might receive greater consideration permission was asked to present this problem before the Executive Council of the Illinois Medical Society.

Accordingly a meeting was arranged with the Secretary, Dr. Harold M. Camp, and on Monday, September twelfth, the writer appeared before the council and presented the work of his Department, but more especially the efforts of the Department to bring about greater cooperation between the physician and the various social service agencies.

Having, as previously mentioned, established more or less satisfactory relations with the various hospitals it but remains to establish these

relations with the doctors and the problem is near solution. That the society is in sympathy with this movement and heartily in accord with the plans of the Department in an effort to solve this perplexing problem is demonstrated by the resolution adopted by the society unanimously asserting its willingness to cooperate in all matters of mutual interest.

In order that every physician may become familiar with the law in such cases the following is reprinted from Smith-Hurd's Illinois Revised Statutes, Chapter 23, Section 341-345:

AN ACT for the licensing, inspection and regulation of maternity hospitals, lying in homes, or other places, public or private, for the confinement of women, and to provide a penalty for violation thereof. (Approved June 24, 1915. In force July 1, L. 1915, p. 254.)

**341. License—Revocation.** 1. Be it enacted by the people of the State of Illinois, represented in the General Assembly: That all persons, societies, associations, organizations or corporations, conducting, maintaining or carrying on any maternity or lying-in hospital or other place, public or private, where females may be received, cared for or treated during pregnancy or during or after delivery must apply for and obtain license therefor from the State Board of Administration. Applications shall be made upon the blanks prescribed by said board and shall be endorsed by six or more persons of good moral character who are regular taxpayers of the county where such maternity or lying-in hospital is located and who shall certify to the respectability of the applicant. If, in the opinion of said board, such hospital is to be carried on for legitimate purposes and the persons connected therewith are proper and suitable persons to conduct such hospital, then a license shall be issued.

If at any time after such license is issued any manager, superintendent or person in charge of such hospital shall have violated any of the provisions of this act or that such hospital shall fail or refuse to comply with the orders of the State Board of Administration made pursuant to this act, such license shall be immediately revoked.

**342. Register To Be Kept.** 2. Every licensee shall keep a register of all persons admitted, the date of birth of every child born on said premises, date of discharge of mother and of child, and if child is placed in a foster home, the name of such foster parent or parents, the address thereof, when placed, and if the child has been legally adopted, and such other information as the State Board of Administration may from time to time require. A copy of all such information shall be made to said board on the first of each month.

**343. Investigation of Homes.** 3. No child from such maternity or lying-in hospital shall be placed in a family home, or be legally adopted until such

home shall have been investigated and approved by the State Board of Administration.

**344. Access to Institutions and Records.** 4. The Board of Administration, through its agents shall at all times have free access to any hospital licensed under this act and to all its records.

**345. Penalty.** 5. Any manager, superintendent, or person in charge of such maternity or lying-in hospital who fails or refuses to procure a license as provided in section 1 hereof, or any one who violates any of the provisions of this act shall be deemed guilty of a misdemeanor and fined not less than \$50 nor more than \$500, or by imprisonment in the county jail for not to exceed one year, or both fine and imprisonment in the discretion of the court.

Laying special emphasis on Sections 341 and 343 of this statute it would seem strictly in keeping with the spirit of the law if doctors would immediately notify the Department after being called in maternity cases, if the case warrants classification of the illegitimate type; or where there appears to be no legalized father and the future welfare of the child is in question.

This will give the Children's Division an opportunity for making contact with the case for the purpose of investigation in accordance with the law, and making recommendations, based upon its experience, which may prove helpful to the mother, to the child and to the doctors.

The physician relinquishes none of his rights by such a policy and the service which the Department will gladly furnish may spare him much embarrassment should the case become common knowledge as many of them have.

Furthermore, this policy makes possible a standardization of the whole problem and places Illinois in the front ranks in the care and protection of its illegitimate children and the unwed mother.

Where the delivery is made in one of the recognized maternity hospitals; that is, one receiving its annual license from the State Department of Public Welfare, this reporting can be done through the hospital, especially, if the hospital is cooperating with the Department in making the required reports. If the case be in a private home the report should come direct to the Department which maintains general headquarters at 700 Booth Building, Springfield, Illinois, and an office for the convenience of handling Cook County matters at Room 1017 City Hall Square Building, Chicago.

While the department deeply appreciates the

expressed desire of the profession to observe its rules and regulations at all times it should be understood that, as public servants, every member of the Children's division is equally anxious to cooperate to the fullest extent with the doctors, that the interests of both may be protected. Suggestions are invited and will be given every courtesy and consideration.

## A CASE OF TOXIC ARSPHENAMINE NEPHROSIS TREATED WITH SODIUM THIOSULPHATE

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CHICAGO

Logical therapy must be based upon etiology. The following case report is particularly instructive in view of a misleading error in evaluating the significance of various sources of renal injury. The prompt and marked improvement which followed therapy directed toward the true source of damage, after other therapy had failed, emphasizes the importance of etiologic diagnosis. This is particularly true in those problems which involve functional as well as structural injury. The following report of a case illustrates these statements:

Case: M. R., 31 years of age, an unmarried young woman, was first seen Feb. 23, 1927, in the Renal Disease Clinic of the Central Free Dispensary, Rush Medical College, at which time the following history was obtained. She had been well prior to the spring of 1926, when a generalized dry scaling exfoliative dermatitis gradually developed. During May and June of 1926 the patient received several injections of arsphenamine for a presumed congenital lues, despite several negative Wassermann tests and no other evidence of syphilis. Early in July, 1926, there was a sudden onset of profuse but painless hematuria, which persisted for three months. From September to October, 1926, the patient was under observation in a different clinic, where a diagnostic study was made. The urine was found to be heavily laden with albumin, and many erythroplastids were present therein. The hemoglobin was but 40 to 53 per cent., the Wassermann negative and the combined phenolsulphonephthalein 45 per cent. Five teeth and the tonsils were found to be infected. The dental and pharyngeal infections were re-



moved and x-ray therapy given over the entire body. A diagnosis of hemorrhagic nephritis on a basis of focal infection was made.

On reporting to the author's clinic on Feb. 23, 1927, the dermatologic department had made a diagnosis of diffuse scaling seborrheiform dermatitis associated with blepharitis marginalis sicca. For this, ultra-violet light therapy was being given. The urine showed 250 mg. of albumin per 100 c. c., many erythroplastids and a few leucocytes. The arterial tension was 122 over 94, and physical examination revealed no additional data. On March 11 the combined phenol-sulphonaphthalein excretion was 15 per cent and on the 13th was 18 per cent for three hours. The hemoglobin was 44 per cent, and the red cell count 3,240,000. The chemical examination of the blood revealed the following data: Urea nitrogen 11.28, uric acid 5.1, and total N. P. N. 25.8. The day over night ratio of urine volume was 1.6. Despite the removal of the obvious foci of infection the renal impairment had increased.

On March 16 the patient was started on fifteen grains of sodium thiosulphate three times per day per month. At this time it was felt that the source of renal injury lay not so much with the previously found foci of infection, but with an arsenical poisoning. This conclusion followed careful consideration of the history, rather than overemphasis of physical findings. The only complaints at this time, other than the disfiguring desquamation, were lassitude, apokamnosis and a sense of exhaustion.

On March 29, 1927, the urine was completely clear of albumin, and no erythroplastids could be found in the sediment. On April 13, after taking the thiosulphate for one month, the urine was again normal, and she stated that she felt much less fatigued. On May 11th, the urine was still normal and on June 7, the urine showed only a few granular casts. There were no erythroplastids. The hemoglobin had risen to 64 per cent., and the erythroplastid count to 4,120,000. The blood pressure remained normal at 110 over 72. The combined phenolsulphonaphthalein test gave a normal result of 69 per cent., with 46 per cent. secretion in the first hour. Simultaneously there was an improvement in the blood chemical findings: Urea nitrogen 8.4, uric acid 4.1, N. P. N. 27.8, and the day over night ratio of urine

volume had risen to 1.9. At this time the patient felt perfectly well, although there was still some diffuse cutaneous scaling. No medication other than the sodium thiosulphate had been employed, and the patient continued with her work.

Unfortunately no light is thrown upon the source of the original cutaneous disturbance by these studies. On the other hand, the etiology of the renal injury is clearly illuminated. The indiscriminate use of arsphenamine has caused several such renal sequelae in the author's own experience, and it can not be overly emphasized that drugs of such potency as the arsenicals are two-edged swords. In the light of the brilliant bacteriologic work being done in the study of the effects of focal infections it is not surprising that the error in considering this a case of hemorrhagic nephritis of infective origin was made. However, the course of events, the persistent increase in the severity of the renal functional impairment after the removal of the foci of infection, the absence of direct evidence of renal infection, and the prompt, emphatic improvement when given sodium thiosulphate strongly support the opinion that the nephrosis was of toxin origin. Arsenic is primarily a vascular poison, which accounts for the liberal hematuria, especially at the onset. The profuse albuminuria, evidence of mild nitrogen retention and impaired phenolsulphonaphthalein secretion indicate tubular injury, either direct or through failure of an adequate tubular circulation because of interference at the glomerular capillaries.

Arsenic is a cumulative poison, and the fact that the renal symptoms appeared shortly after the course of injection coincides with previous observations. Furthermore, it has been shown that arsenic may continue to be secreted into the urine for a long time after its administration.

The use of sodium thiosulphate as a detoxicant in heavy metal poisoning was first suggested by McBride and Dennie<sup>1</sup>. Its value has since been confirmed by many observers<sup>2</sup> both here and abroad. The pharmacodynamic mechanism is presumed to be the precipitation of insoluble sulphids, or by the formation of non-ionizable soluble complexes. The intravenous use of the thiosulphate has been strongly advocated for the acute severe arsphenamine intoxications<sup>2</sup>. Perhaps more rapid improvement might have occurred in the above case had the drug been given

intravenously. However, the patient was working, reporting to the clinic was difficult, and the results with the oral administration are apparently very satisfactory.

The above case is illustrative also of the importance of the principle that because an apparently adequate explanation for a disease process is found, it does not necessarily follow that it is the sole, or even the most important factor. The oral and pharyngeal infection seemed adequate to warrant the conclusion that there lay the cause of the renal disturbance. Such, clearly, was not the case, however.

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### ORGANIZATION AND MAINTENANCE OF MUNICIPAL HEALTH DEPARTMENTS IN SMALLER CITIES\*

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Director, Hygienic Institute

LA SALLE, ILL.

We have in La Salle, Peru and Oglesby, Ill., an institution known as the Hygienic Institute and so far as we know, the only institution of its type in the world. This is really an endowed health department, organized in 1914 by Mr. F. W. Matthiessen of La Salle, Ill. Mr. Matthiessen at first employed the director and personally paid all expenses, but in 1917 the Hygienic Institute was legally incorporated, under the laws of Illinois, as a corporation, without profit; for the purpose of protecting the health of the people of La Salle and Peru Townships, and for carrying on scientific research, particularly in the field of preventive medicine.

About this time a board of five trustees was created to manage the institution, and Mr. Matthiessen's contribution took the form of a permanent endowment. For some time the income from these investments was approximately \$24,000, or about \$0.75 per capita, but recently, due

to lessening interest rates, it was reduced to around \$21,000. With increasing cost of health service and a decreasing income, the amount and efficiency of the service must decline also.

Such was the status when the present director took charge in September, 1925. Since this time several thousand dollars additional have come to the Institute from the Matthiessen estate, principally, but the Boards of Education of the cities of La Salle and Peru are contributing, the Tri-City Tuberculosis Society is financially cooperating, and the daughters of Mr. Matthiessen are personally financing two nurses and a car; all of which has raised the annual income of the Hygienic Institute to over \$30,000 or better than \$1.00 per capita. Up to the present time the cities have contributed nothing officially toward the support of their health department, but at this writing an effort is being made to influence the newly elected officials to agree to appropriate sufficient funds for the support of a full time sanitary officer and a venereal disease clinic.

The writer having recently come into Illinois, and under the above unique circumstances, is probably not the best qualified to write this paper for Illinois health officers, because he has not had large experience with Illinois official appropriating bodies. He has, however, had this experience in another state and knows that public health is salable.

The secret seems to be a combination of hard work, a certain amount of public health training, and the exercise, to the best of one's ability, of good common sense. The mass of the people move exceedingly slowly, and it is very easy for the health leader to attempt to go too fast and soon get out of the health vision and beyond guiding distance of his followers. In other words, it is evolution and not revolution that is needed in public health. One of the fundamentals is to render service that can be readily appreciated, not only by the public, but by interested groups of the community. I refer to such service as the hourly visiting nursing service, from which more truly public health nursing can be gradually extended. He must precede new service by an acceptable public opinion and he must try to control the voluntary agencies so that their activities do not put an unfavorable stamp on public health in general, but that they do mold public opinion so that it is receptive to

\*Read before Section on Public Health & Hygiene, Illinois State Medical Society, May 31, 1927.



new official procedures. If the health officer can do all these things he can get and gradually increase his appropriations.

This being a health officer in the smaller municipalities is indeed a sizable job. A student once complained to a prominent professor in an eastern school of public health, that he was being trained to be a health officer of a large city and not the smaller kind in which he most likely would have to serve. The professor replied, "Young man, you need the same education for the smaller city as for the large one, and you will have just as big a variety of health problems. The difference will be that you will not only have to be the health commissioner but most likely the chief of all your divisions, and then have to do all the work yourself."

*Organization.* Now it is not the intent of this paper to deal exhaustively with the art of getting appropriations or securing money for health purposes, but we must admit that any organization has to be based on the finances available. If there is only a health officer, the organization must be simple, and the activities possibly confined to sanitation and the attempt to enforce the mandatory public health laws. In La Salle, Peru and Oglesby, Ill., the three cities over which the Hygienic Institute has health supervision, the organization has kept pace with both the finances available and current public health thought and practices.

At present the health activities are divided into five divisions as follows: (1) Administration, (2) Diseases Control and School, (3) Sanitation, (4) Laboratory, and (5) Public Health Nursing. It is contemplated to have four chiefs over these five divisions, and we already have three of the positions filled. The Director of the Hygienic Institute acts as chief of the Division of Administration; there is a capable bacteriologist and chemist heading the Division of Laboratories; and we have recently secured a splendid woman for the Division of Public Health Nursing. There is yet the Division of Sanitation, and Disease Control and School to be supplied. An effort is now being made to secure a Medical-Sanitary officer to head the Division of Sanitation. It is then planned to divide the activities in the remaining division, that of Disease Control and School, between the Director, the Medical-Sanitary officer, and the chief of the Division of Public Health Nursing. This latter is a di-

vision that must necessarily borrow personnel from other divisions, since it includes the physical examination of school children, exclusions from school, diagnosis and quarantine of communicable diseases, school nursing, first aid, health education, correction of defects, immunization, etc.

Briefly stated, the activities included in these divisions are as follows:

Under Administration we have office routine and general direction, public health education, vital statistics, epidemiology, medical library, weekly hospital lectures, field research and special activities. Since July, 1926, the registrar's duties for the three cities and three townships have been centered at the Hygienic Institute, which greatly adds to the efficiency of the health department. The expenses of this division, including the salary of the director and two assistants, the maintenance of six Fords and the general expenses are approximately \$13,000.

In the Division of Disease Control and School are included the school child activities, such as weighing and measuring, physical examinations, removal of defects, promotion of health habits, first aid and daily visits to homes to check up on absenteeism. Also are included the immunization work, isolation and quarantine, dental, tuberculosis and venereal work and the partial support of an Isolation Hospital. Only \$2,000 has so far been allotted to this division, but there is nothing included for salaries, since its personnel has been drawn from the other divisions, and our dental and venereal work is just being organized.

In the Division of Sanitation are included the market milk and food distribution, water supply, nuisances and sanitation, and sanitary surveys. With a medical-sanitary officer over this division we must allot at least \$4,000.

In the Division of Laboratories is done the work of public health diagnosis, toxicology when required, sanitary examinations, clinical examinations of blood, pus, urine, etc., other examinations and such research as time and material will allow. The expenses of this division have been about \$2,600 yearly.

In the Division of Public Health Nursing are included all phases of public health nursing, including bedside nursing, infant welfare and special classes. Attendance at labor cases is expected to be added in the near future. Our goal

in this division is eight staff nurses. At present we have only six and the director of the division. The expenses of this division, which includes salaries only, is, at present, \$11,400.

It will be noted that the budget, as given above, totals \$33,000, which is more than our present income, but we have bright hopes of getting this additional money very soon. We have recently taken over the Metropolitan Life Insurance work, which is valued at \$1,800 yearly. We are also rapidly developing our visiting nursing work on an hourly basis for which we charge \$1.00 per hour or part thereof. As previously stated the cities are being asked to contribute and there are still other chances of revenue which cannot be stated publicly at this time. So we have hopes of giving our public, in the near future, a well rounded health service of which we can be proud, and at a cost of about \$1.10 per capita.

*Maintenance.* Under this heading is included more the maintenance of good will than financial maintenance, which has been dwelt upon to some extent in the context above. The maintenance of good will is extremely important—in fact it is vital to the health departments of the smaller cities, and public health progress must be subservient to it. In every community there are three principal groups or classes to be satisfied. These are the public, the medical and dental profession, and the health department.

Of these groups the medical profession is the most jealous of its rights, and I think not without cause. There is a great tendency to go to extremes along health lines by the enthusiastic health officer, by altruistic and philanthropic citizens, and over ambitious voluntary agencies. On the other hand, there is among many medical men a fear, amounting to almost a bogey, that these activities will lead to state medicine. I wish to give my opinion, right here, that a properly organized and officered health department is one of the best assurances against state medicine. The properly trained medical-health officer is the very mouthpiece of scientific truth, which must be synonymous with scientific medicine. He and his staff of nurses are constantly advising the sick, with whom they come in contact, to go to a scientific physician; and where these workers in their human frailty, make one indiscreet remark, they make dozens that are

helpful to the doctor. It seems to be human nature, however, for the doctor to so often hear of and remember only the remarks that were detrimental. Again, more often than not, what doctor hears about the health department activities, and vice versa, has suffered badly in transmittal—even to the extent of complete metamorphosis.

Nevertheless, times are changing, the people are reading Health in newspapers and magazines, and in other ways being educated in health matters. They know of preventive medicine—vaccination, toxin-antitoxin, scarlet fever toxin, typhoid immunization, etc. Yet there is a human psychology of indifference, procrastination, or take-a-chance attitude, that keeps the public at large from availing themselves of these opportunities. The physician too often sits in his office in his ethical way, willing to give this service if his patient requests it. The health officer and his staff may be out working and pleading, but the public does not respond in anything like adequate numbers sufficient to protect them against any one of the preventable diseases.

Are we to be satisfied with these efforts, or are the physicians to actively get into this game, by inducing their patients to accept these life saving, health promoting procedures? Or, on the other hand, are the health departments to be allowed to hold immunization clinics, with certain restrictions? I think the failure of the medical men and health departments to get together right, in this field, is a definite menace likely to react in favor of so-called State Medicine. We must act and solve questions of great public concern or there is bound to be attempts at solution in ways detrimental to scientific medicine. As this is being written, there are signs that the medical profession and the public health agencies are awaking to the importance of this matter, and have already held a conference, national in scope, to freely discuss all phases of the question. If some agreement can be reached by the national bodies as to what is right and proper, it will be a great boon to the struggling, conscientious health officer of the smaller cities.

The writer has great faith in the majority of the medical profession ultimately recognizing that the properly officered health department is an ally instead of an enemy. He does not intend to rush heedlessly and impatiently into preventive medicine, but prefers to give the slowly



changing, conservative, medical body time to help solve the problem. There is no question about immunizing the public if the health departments would render the service free. The writer once offered to Schick test all school children, whose parents would agree to have them immunized by their physician if the test proved positive. Only 48 children brought consent slips out of a school population of approximately 5,000. The next year, as a demonstration only and with the consent of the local medical society, he agreed to immunize free all who were positive to the Schick, and over 3,000 children accepted the invitation. The following year a canvass of physicians showed that almost no one had voluntarily presented themselves to their family doctor for this service. Then another experiment was tried by way of inducement. The physicians agreed to reduce their fees to \$1.00 for the three injections of toxin-antitoxin, provided the children would all be presented at their offices at a certain designated time. A health department nurse was to be there to prepare the skin at the site of injection, and to otherwise help the doctor to sterilize his syringes, etc., so that about all the doctor needed to do was to fill his syringe and inject the medicine. The country was flooded with literature, and the dates and hours were set for every doctor's office, except three who did not wish to participate. The total number immunized as a result of all this, in a county of approximately 30,000 population, was 150 children.

This brings me back again to the point, that if these are really community problems of importance, there must either be free service to all who care to accept it, or the individual physician must actively participate in trying to induce every one of his private patients to accept such service. I have seen statistics from two health departments who vaccinate for smallpox all who apply, and in one they did two-thirds and the physicians one-third of all the vaccinating, while in the other, a college town, the service was about equally divided. In our own cities, in July, 1926, a smallpox scare occurred. School examinations, made during the previous school session, showed that only about 5 per cent of the children were vaccinated. The physicians were called together and they nobly responded by reducing their fee to \$1.00 per vaccination and requesting our Institute to vaccinate free all

who applied. As a result we vaccinated over 3,000 persons and the physicians approximately 1,500. The epidemic stopped promptly, and medical science had again rendered a distinct community service, not only to health and life, but to the business interests of the community as well.

I have little faith that Women's Clubs, generally, and of themselves, can accomplish any great sustained good by taking a pre-school child to a doctor for examination. However, if the Women's Clubs, the profession, and the health departments actively cooperate, and if free service was available to all who could not be induced to pay for it, then I believe a high degree of immunity to certain diseases could be secured in any community, and that the physicians would do much more of this type of work than is the case now. Also I believe this altruistic and co-operative spirit would be an impediment to State Medicine, and the various cults as well.

*Attempts at Cultivating Good Will.* However, I am not entirely sure that the above is the best solution of these perplexing questions, and it is best to go slowly and work in harmony with the local profession believing that eventually the right solution will come. However, at present the Hygienic Institute is maintaining a medical library for the use of the local physicians. Here they also hold their regular monthly Tri-City Medical Society meetings, and the nurses of the Institute serve them a 6 o'clock dinner, at cost, before each meeting. Each member of the Institute staff is urged to be fair and just to the medical man and to be actively loyal to scientific medicine. The laboratory is also of great service to them, and we are building up a visiting nursing service of considerable immediate value to them as well as to the public. Also it is contemplated, in the near future, to extend this service to attendance at time of labor in the homes. The Institute is also supplying "Hygeia" to all the schools and libraries of our three cities. All this is in line with an attempt to give a practical appreciated service along with the more remotely tangible type of service.

In return the physicians are reporting splendidly their communicable diseases and vital statistics and have endorsed our diagnostic tuberculosis and proposed venereal disease clinics. The most frequent and about the only trouble we

have now is that caused by the prevaricating patient, who tells the doctor what the nurse said and the nurse what the doctor said, and these irritations are lessening because both sides are rapidly becoming immune to these gossips.

In conclusion I wish to stress the fact, about the only point of real conflict between the active health department and the physicians is in the field of preventive medicine; and that the medical men, the health department, and the public have incontrovertible rights in this field; and that each must find their proper place with relation to the other if the question is to be solved. It must be solved as *no solution* invites public dissatisfaction and distrust, and favors so-called State Medicine and Cults. A *solution* means wise concessions from all sides.

When this Utopian condition occurs the organization and maintenance of health departments will be comparatively easy, both economically and fraternally. The public health will be promoted, life lengthened and the physician made more prosperous.

#### DISCUSSION

Dr. Harry Frey, Rock Island: At the last moment I have been called on to do a little "pinch hitting" for Dr. Brokaw, who is not here. Dr. Ailes wrote me of the conditions that existed and that prevented Dr. Brokaw from coming. He mailed the letter Friday and it did not reach the postoffice until too late for Saturday delivery and I did not know until this morning that I was to take part in the program. So I feel that I can not give a very intelligent discussion. I did not even have time to read the doctor's paper which he sent me. But if you accept what I have to offer under those conditions, I will do the best I can.

I wish to compliment the doctor on the very excellent paper that he has delivered. He is about the best authority on the subject that you could have found, because Dr. Ailes occupies a unique position. I think that he has the nearest to ideal conditions in the state of Illinois for a health officer to work. He has everything under one head. He has, I believe, for the population he serves, the largest financial fund available and he has everything which tends to permanency. The great trouble with the average health department of the ordinary city of the size of Moline and Rock Island and smaller and some larger cities in the state, is that they are handicapped from lack of sufficient finances. We are handicapped through decentralization and disorganization because of the fact that ours is a political job. I had the privilege of serving the city of Rock Island for four years as health commission, but at our recent election the city went Democratic and I am out of a job.

It is a deplorable condition because the health commissioner is a part-time man and he can not render the services which communities of this size should have.

Now, for instance, our own organization in Rock Island; our school department is in the hands of a part-time man. Our nursing division is under a separate organization. Our laboratories, what facilities we have, are very much disconnected. If we wish to have the services of a nurse, we call either a drug store and leave the message or we have to get in direct touch if possible with the nurses' headquarters. If we have any laboratory work, we must send it to the Lutheran Hospital in Moline, where the state maintains a branch laboratory, and the rest of it must be sent to Springfield, or we must employ some of our local men who specialize in that work. Our finances are woefully short. We thought we were struggling along the past several years on what we considered minimum finances. This year they have cut that, so by the time salaries are paid, there was nothing left to use in educational campaigns or furnish the things that a health department should furnish to a community of that size.

A word about the opposition which we meet in the field of public health service from the local doctor. I believe, as Dr. Ailes has said, that the day is soon going to dawn when the physician will realize that he does not have a competitor in the health officer, but he has a friend and a counselor and a man who is really making a greater field for his activities.

Two years ago we attempted to put on a campaign of toxin-antitoxin immunization among the school children. It was started by the school examiner. Immediately there was opposition. Later the doctor who put the motion before the Rock Island County Medical Society, to have the project discouraged admitted that he jumped at his conclusion and did not understand the plan, and the county society voted down the proposition. Last year we put on a similar campaign and the proposition was taken up at the physician's club and a plan was worked out. The local doctors agreed on a price of one dollar for immunizing, and they also agreed to take care of any children of indigent families. We sent out cards to the parents of every school child, and insisted that the teacher receive a reply from each one. We have over 5,000 school children in the city and we immunized in the neighborhood of 1,500 children, which was not a very large per cent. But when you consider the opposition we have had from our chiropractic fountain-head across the river, working tooth and toe-nail against us, we feel that we accomplished something and I really believe that in another year, if this thing could be headed up by the right personnel, that it would go over in big style. The doctors of the physician's club have commented upon the fact that they all made money off of that campaign. During my administration as Health Commissioner in Rock Island, whenever a disease was reported by a layman the health officer made an



investigation. He would tell the people to get in touch with their family physician. That not only reduced my work but it pleased the family doctor. He got the benefit of the call. Where conditions were such that they refused to employ a doctor or were not able to, I naturally took that as part of my work and went to see them and made a diagnosis or whatever was necessary.

The local doctors are beginning to understand that public health and state medicine are not synonymous, that public health work is a vital necessity, that no community can live without it or prosper as they should as far as their health is concerned.

I think that the time will come when there will be more full-time health men who are specialists in their field. This is a day of specialization and we are finding that it is pretty good practice, when you have something you want done, to employ the man who knows the most about it. With a part-time man who tries to carry on a practice and devote his time to this kind of work, something is going to be slighted sometimes and usually it is the public health end that is slighted if it comes to choosing between his own personal business and the public health business.

I hope that there will be more philanthropically inclined citizens who will take it upon themselves, or the state legislature or whatever body is necessary for appropriating the finances, to develop more institutions like Dr. Ailes is at the head of, because it will be a boon to the community where it exists and to the medical practice also.

Dr. Ailes, in response: I don't think that there is much more to be added, Mr. Chairman. I do think, however, that if the physicians and health departments were agreed in this matter of preventive medicine, and the health departments were allowed to immunize those who came to them without so many hard and fast lines being drawn as to just the amount of income a man has—whether he might have \$100 hidden in a bed spring or not—that the physicians, the health department and the public would be better off.

We cannot get people immunized by compulsion or by campaigns. But if a family, living in a block are immunized at the health department, they are a walking demonstration to others in that block that immunization is a safe and sane procedure; that vaccination, modernly performed, does not produce horrible sore arms, etc. Then there is no compulsion, no campaigns that allow the quack and others to argue that this is only a money making scheme for the doctor. Some other families in that block will not accept charity or so class themselves, and I believe many will go to their physicians for this service, in order to obtain that feeling of security from disease for their children that has been demonstrated by the health department.

The health department, of course, will get a good many, the physicians will get many more than they now receive, and I believe that the result will be that the public will become fairly well immunized, and we will be ready for epidemics. In addition the

public would see that the physicians and health departments were in unison, and working together for the benefit of mankind. It would be a wonderful demonstration of altruism, less encouragement to cults, more harmony between physicians and health departments, and more money for the doctor.

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## THE ROENTGEN RAY AS A REMEDY IN BENIGN GYNECOLOGIC DISEASES. A SUMMARY OF ELEVEN YEARS OBSERVATION\*

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To report in a few minutes 482 cases covering eleven years of work is a difficult task and of necessity is less absolute than a report covering a shorter period. However, a statement of the practical aspects of x-ray therapy in gynecology may be undertaken with the hope that there will result a better understanding of x-ray as a benignly efficient agent in the nonsurgical treatment of women's diseases.

The eleven years have developed in my mind two outstanding convictions. First, that x-ray, in the hands of a physician with diagnostic and clinical experience, is a remedy to be preferred in selected cases of benign pathology; and second, that the more deliberate technique usually employed with the lower voltage, that is, smaller doses covering a longer period of time should be preferred.

*Technique.* In x-ray therapy, as many of you know, there are two distinct methods of application. The first is the short wave-length massive dose, from a high tension machine with a capacity of 150,000 to 300,000 volts, the entire dose delivered usually at one or two sittings. The second method consists of a smaller dose, and is delivered usually from a lower voltage machine with a capacity of 120,000 to 130,000 volts. This technique is a more deliberate one. The treatments may be given in series with intervals of three weeks at first, later four or more weeks or even as many months. The number of treatments varies according to the nature of the pathology and to the requirements of the individual case.

This latter technique, the low voltage, gives abundant time for readjustment, and is, I be-

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\*Address before North Shore Branch, Chicago Medical Society, brought up to date.

lieve, the safest and most satisfactory practice in benign cases, for the following reasons:

1. While the pathology in hand is favorably influenced, neighboring tissues are not injured.
2. The prostrating "Roentgen sickness" which usually follows the massive dose, will not result.
3. Detrimental blood changes do not occur.
4. Secondary sex characteristics, such as obesity, asexuality, etc., do not appear, probably because the ovary is affected only as to ovulation, not as to endocrine output.
5. The tissue changes are slower. If the menopause does result, it is not so precipitate and stormy.

If a temporary amenorrhea is desired, as in younger women, we can easily reduce the amount of x-ray after the pathology has been influenced.

Dr. Newcomet of the Presbyterian Hospital, Philadelphia, emphasizes similar principles and seems to have proved that in benign cases the small dose may be applied remedially to women of 30 to 35 years of age, and that the menses may be disturbed only temporarily or not at all. Dr. Newcomet employs a dose still less than mine, and believes that if mild doses fail, heavy ones will<sup>1</sup>. Dr. Knox, St. Luke's Hospital, New York, states that women from 25 to 35 years of age after amenorrhea for two or three years may resume menstruation<sup>2</sup>. In nine of my own cases of fibroid uteri, in younger women, a temporary amenorrhea was produced, the pathology remedied and the menses normally resumed in from six months to three years. I believe child-bearing is possible in such cases. One case, upholding this belief, conceived and bore a normal child at full term, after four series of x-ray. So it is evident that sterilization is not always necessary.

My detailed technique follows:

Spark gap: 23 centimeters (9 inches).

Distance: 31 to 43 centimeters (12 to 17 inches).

Five milliamperes.

Five millimeters of aluminum and sole leather as filters.

Time of exposure is from 14 to 16 minutes, through as many ports of entry, 8 to 13 centimeters (3 to 5 inches) in diameter, as are required to cover the pathology under treatment.

There is a general agreement that the requirements of the tissues we are discussing are all below 100, the unit skin dose<sup>3</sup>. The ovary is about

one third or less, while the glandular tissues and fibromyoma cells are all below 100.

*Fibromyomata.* The pathology most frequently presented to the gynecologist for x-ray treatment in fibromyoma. We have treated 302 cases. In the selection of these cases the foundation is laid for success or failure. For practical purposes, all cases fall into three well-defined groups: first, those which should be rejected because of definite contra-indications presently to be stated; second, those which should be accepted with guarded prognosis, which for various reasons may yield only partial success; third, the hemorrhagic intramural fibroids, which are highly suitable for this form of therapy, and which yield uniformly excellent results.

The first group, those unsuitable for x-ray, usually present one or more of the following contra-indications:

*Contra-indications:* 1. A tumor associated with acute symptoms, such as sudden severe anemia, much tenderness, fever and chilliness, may be, for example, necrotic and is at once surgical. Here should be included cystic and other degenerative changes.

2. A tumor associated with large ovarian tumors (not simple follicular cysts) belongs to the surgeon.

3. Pedunculated tumors should be operated upon if the pedicle is slender and there is danger of torsion.

4. A suspicion of malignancy puts the case into the hands of the surgeon or the short wave expert, or the radium therapist, or all of them.

5. Submucous tumors are apt to be disappointing, though they are rarely recognized at first examination. But since it is probably true that submucous growths are associated with 10 per cent. of all fibroids and that less than two per cent. fail to respond to x-ray, it seems fair to conclude that about 8 per cent., even of the submucous type, are rendered innocuous.

6. A large non-vascular tumor, made up mainly of connective tissue, is slower to respond and may not yield the best results. When it is reduced in size, however, and the menopause established, health and comfort usually follow, and not infrequently the tumor gradually disappears.

7. A woman who desires children and whose subserous tumors can be enucleated, is a good subject for myomectomy. At the Mayo Clinic,



44 out of 488 cases became pregnant after the operation. This is 9 per cent<sup>4</sup>.

The above contra-indications are legitimate guides in practice, but as my experience grows and my judgment becomes more reliable, I am accepting cases that once I would have refused. This is possible because I find a much larger percentage respond to treatment and return to health than I at first thought possible. However, my inability to recognize contra-indications has led to the following failures that came to operation. As I look back I see that they have come mainly through errors in diagnosis.

The first was a myxomyoma. These are rare, almost never diagnosed until after operation. Next came a fibro-cystic tumor of the ovary in median position. Then a cancer of the fundus uteri was accepted after a negative hospital report. The next was a fibroid tumor closely associated with a dermoid tumor. The fibroid disappeared, the dermoid remained. The last case gave me great anxiety and regret. She was a very poor surgical risk and also was unsuited to x-ray. The tumor was large, multiple and hemorrhagic to an unusual degree. The complication was one of the worst cases of exophthalmic goiter I ever saw, and a badly damaged heart. X-ray reduced the tumor and the hemorrhage, general health improved and the goiter gradually subsided. But the bleeding would occasionally recur. Radium was required the third time before it disappeared. Four years of good health followed. Then a papillomatous cyst of the ovary required operation. The small fibroid remaining seemed so innocuous that it was not removed, because of the risk of too long an operation. Again the patient resumed her work. But a year later, seven years after treatment began, she died of a malignant growth. This case is reported more in detail because it is my only case of cancer which developed after treatments were instituted.

The second fibroid group consists, as above stated, of those cases that may not yield results entirely satisfactory and yet may properly belong to x-ray therapy. For instance, women who are not good surgical risks, those with heart or kidney diseases, or hyperthyroidism, or arteriosclerosis, or other serious complications, belong to this second class. In some of these cases the health can be so improved and the pathology so

far remedied that an operation is later possible if desired. I have had four such cases. For example, among my series were two large multiple tumors which would count as failures were it not that before x-ray treatments the patients could not with safety have been operated upon. Later, because of improved health and reduced pathology, hysterectomy was done safely and successfully. In other cases, however, surgery will probably never be possible. To these women the roentgen therapist can offer a definite relief not obtainable through any other method. Other women who might be put into this group are those who cannot turn aside their business or their home duties for hospitalization, or who refuse to submit to surgery. These should be given a choice of procedure after a full understanding as to prognosis, if x-ray promises a relief of symptoms and a probable return to health. A large percentage of these cases yield excellent results.

The third group, fortunately about 75 per cent. of all fibroids, is made up of the hemorrhagic intramural fibroids. When these are situated below the umbilicus, are not seriously complicated and occur in women of 40 years or more, they are ideal cases for x-ray therapy, yielding almost 100 per cent. in good results; that is, the tumor usually disappears.

*The effect of x-ray on pathologic tissues.* The explanation of such gratifying statistics is to be found in the histological study of the pathologic tissues subjected to x-ray.

1. In the fibroid tumor cell the nuclei first show hypertrophy, then the chromatin coagulates, is diffused and may be displaced into the protoplasm. Later vacuoles occur and the nuclei are obliterated. Finally the detritus is carried away by the leucocytes and young connective tissue takes its place<sup>5</sup>.

2. In the ovary x-ray inhibits ovarian stimulation, probably by its effect first on the ripened follicles, then the ripening follicles, then the primordial follicles, and last, if the x-ray is continued long enough, the interstitial tissue<sup>6</sup>.

3. The internal secretion is apparently not influenced at all or not until much later. X-ray may be discontinued before the hormones are affected<sup>7</sup>.

4. In the blood vessels x-ray produces an edema of the endothelial lining of the capillaries,

which causes an endarteritis obliterans, thus limiting the too abundant blood supply<sup>8</sup>.

5. It has been repeatedly demonstrated that the x-ray has a direct influence on glandular tissue. The enlarged cystic utricular glands and the glands of the cervix uteri soon become less in size and function, thus contributing to the increasingly normal picture. In short, x-ray, while reducing pathology, produces in the ovaries, blood vessels and glandular tissues conditions that prevail in the normal menopause.

*Histological studies in uterine hemorrhage.* Changes in the blood vessels and the glandular tissues are pertinent to the explanation of the success of x-ray in the treatment of hemorrhage, whatever the cause of the hemorrhage may be, excluding cancer. Samuel Geist has proved by his histological studies that the one characteristic finding in cases of hemorrhagic fibroid is hypertrophy of the mucosa; in uterine hemorrhage without gross lesions hypertrophy of the mucosa with edema of the stroma and enlarged, sometimes tortuous, almost always cystic glands are found<sup>9</sup>. This pathology is exactly that remedied by the roentgen ray, as has been shown above.

*Hemorrhage of the menopause.* No type of case has given me more satisfaction, in its reaction to x-ray treatment, than hemorrhage during the menopause. The cases of so-called "essential hemorrhage" have long been said to be without pathology and as such are usually classified. But with a large, boggy uterus, or with hypertrophy of the mucosa, so often found by Dr. Geist, above quoted, I am inclined to think of them as mildly but distinctly pathologic. However this may be, the hemorrhage is more easily controlled at this time than at any other, because Nature cooperates. The gradual application of moderate doses of x-ray is almost specific. To date, I have treated 20 cases. All have responded to this form of therapy and have remained well. In my judgment, any troublesome menopause that is prolonged, nerve-racking, with its familiar train of distressing symptoms, should thus be terminated, and very little x-ray is required.

In addition to the conditions above described I have treated the following pelvic pathologies with x-ray.

*The ovaries* when they present the small fol-

licular cysts should not be patched nor removed. These cysts may grow to the size of a lemon, but under x-ray they recover promptly with the fibroid tumor. I have a list of 65 cases that are well. The large ovarian tumors are always surgical. They are not caused, nor prevented, nor cured by x-ray.

*The cervix uteri*, where cancer prefers to attack, should be cured long before that tragedy. In cases of cystic degeneration of cervical glands, with erosions that are sometimes extensive and threatening, the x-ray is a dependable remedy, and the response to treatment is prompt and satisfactory. To date no case of cervicitis has developed cancer, though we have had several that required follow-up treatment. We have treated 69 cases.

*Dysmenorrhea*, the type that resists all measures, that incapacitates the sufferer, that makes her a haunted invalid throughout the month, should be ended with x-ray. These cases, 21 in number, have come so promptly into good health that they have given us great satisfaction.

*Adhesions* generally yield to x-ray as do also indurated and inelastic tissues. After a reparative circulation is established, the tumor becomes freely movable and later the uterus which was held down by tumor weight and adhesions may resume a normal position, to which it naturally inclines.<sup>10</sup> This has occurred often enough that we now entertain a reasonable hope for that result. The reduction of adhesions was one of the first observations made by the earliest x-ray therapists.

*General management* includes attention to the individual needs and a flexible regime for the woman who does not conform to the general rule. In order to estimate what the rule may be we have a large card printed with regard to convenience and precision of detail on which we record so exactly the technique of each treatment that today we can repeat in every respect a treatment given ten years ago today. On this card is also noted the results of the check-up examinations. If there is less improvement than promptly occurs in the well selected case, a search is immediately made to find the cause of the stasis. After treatments are finished the patient is urged to report periodically to her physician or to myself for the follow-up estimation of her condition. A large majority of the cases in this report



have had confirmatory diagnoses made by other physicians. In this way only can we draw reliable conclusions and attain accuracy in our reports. The above named details are so important that I object to a technician or any one who is untrained in exact gynecologic estimation and in x-ray possibilities. Because of discrepancies in management, x-ray as a remedy in women's diseases has not come into full recognition. We should remember that x-ray is at once the most dangerous and the most benign of all the active therapeutic agents. But it has been in this special field more neglected, more misunderstood and more trifled with than has any other scientific measure.

There are several legitimate questions frequently asked me.

Does x-ray affect a woman sexually? Under moderate application it does not if treatments are ended when the work is done. My women are, in a very large majority, unchanged in this respect, except for the better. This improvement is the result of better health, no fear of conception, and freedom from pain and discomfort during coition. The results are better under moderate x-ray than from radical surgery. Bride of London reports that 39 per cent. of his operated cases are disturbed as to sex relations.<sup>11</sup> Fear and psychic instability here enters into the problem, and these are favorably influenced if a woman knows that her generative organs are intact, as after x-ray.

Is the danger of cancer greater if the tumor is not treated surgically? Of my entire series only one has, to my knowledge, developed a malignant condition in the uterus after treatments. This fact seems to favor the belief that x-ray therapy through the establishment of normal circulation and the relief of the pathology present, helps to prevent the development of cancer by remedying the precancerous state. To substantiate, I quote E. Essen Moeller<sup>12</sup> who reports 700 operations for myoma followed by the development of 22 malignancies. This is 3.14 per cent. in cases operated upon. On the other hand, Franque<sup>13</sup> reports roentgen treatment of 200 myomata, followed by malignant degeneration of only one. This is 0.5 per cent. If x-ray has no advantage over surgery, Franque would be entitled to 6¼ cases of malignancy instead of one.

Cullen (of Johns Hopkins)<sup>14</sup> finds carcinoma of the cervix in one per cent. of the myoma cases, and of the body of the uterus, complicated with myoma, 2 per cent. adenocarcinoma. According to various estimates, about seven cases instead of one should have developed cancers in my series of 302 cases of fibromyomata. Nor did any cancer develop in my 180 miscellaneous cases which included 69 cases of cervicitis.

Is there not danger of x-ray burns? There is, always. But if in 11 years we have managed to avoid burns and other accidents, it follows that it can be done. In each of the ten cases of x-ray burns that I have known about, in outside laboratories, there was either ignorance or carelessness or a gambler's disposition to take chances.

Why do you prefer x-ray to radium or surgery? X-ray is preferable in selected cases only. If a case is suitable to x-ray it should be given for the following reasons:

1. There is no danger to life in x-ray therapy. Both radium and surgery have an admitted mortality.
2. X-ray requires no loss of time, no hospitalization.
3. X-ray covers a wider field, includes more possible outlying pathology, stimulates more active circulation of lymph and blood.
4. X-ray more easily reduces the large tumor than can radium.

In conclusion I wish to urge that Time and Nature are two almost invincible allies; that in benign conditions x-ray in remedial doses, not destructive doses, reduces the pathology without injury to other tissues; that a woman's health is conserved by methods free from shock and prostration and by leaving her generative organs intact and functioning if possible; that x-ray in the hands of a physician with diagnostic and clinical experience should hold an important place in the armamentarium of the gynecologist.

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## TECHNIQUE AND RESULTS OF 250 DIATHERMY TREATMENTS OF ACUTE GONORRHEA IN THE MALE

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A year ago when the writer first started using diathermy in the treatment of acute gonorrhea in the male the method of giving such a treatment differed considerably from what is now followed. At first an attempt was made to produce the necessary artificial pyrexia in the penis by placing it in a glass of warm normal salt solution with a large indifferent electrode, well soaped, on the lower abdomen or lumbar region of the back with the patient in a recumbent position. There were many obstacles to be overcome by this procedure; i. e., burning sensation too uncomfortable for the patient to withstand at the junction of the surface of the water with the penis, and secondly, inability to produce enough heat to do any good whatsoever. By this method only about 400 milliamperes of current could be used.

Convinced that this method of technique was futile another was employed by cutting two strips of block sheet tin about one-half inch wide and about one and one-half inch longer than the penis. These were well soaped as was the penis and then laid lengthwise of the organ, one above and one below, extending as far back as they could be placed and were bound on by simply bandaging the penis, clips being attached to the cables from the machine to the strips of tin. The fallacy in this procedure proved to be the fact that it was impossible to bandage on the slippery strips and that because they were not absolutely parallel at the places where they dented the most the current jumped across the more readily, causing "hot-spots" and complaints from the patient

together with resulting blistering at these places. The amount of heat produced however was a trifle more than the first mentioned method and therefore the preferable of the two.

At about the same time a different procedure was exploited by an electrical company: that being the use of a metal rod similar to a sound which was to be passed into the urethral canal and held there with an indifferent electrode of large dimension placed on the back or abdomen. Results were not satisfactory in testing out this appliance and it was my belief that but very little heat was produced along the sides of the active

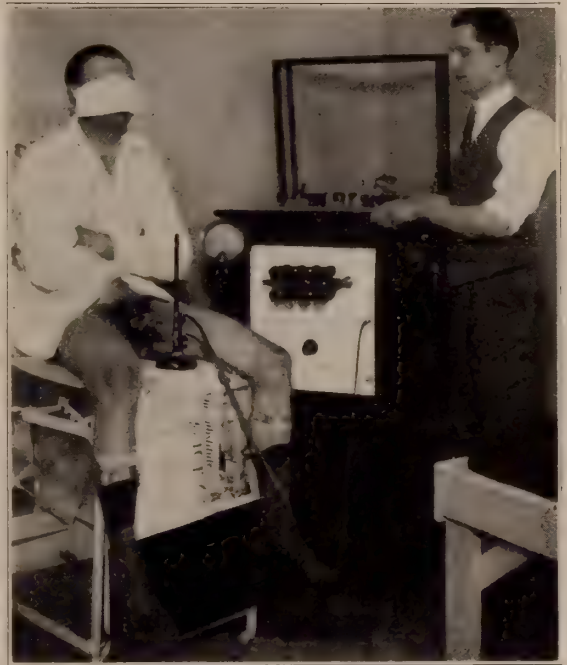


Fig. 1. Method of giving treatment.

electrode and that most of the current passed from the tip to the inactive electrode as evidenced by pain and burning far enough back to be about where the tip of the rod was.

About seven months ago a GX-GU electrode manufactured by the General X-Ray Co. of Boston, Mass., was obtained and used. This instrument consists of two parallel strips of metal which are bent along their entire length of about three and one-half inches so that the concavity of each is directed downwards and which act as the electrodes. They are attached to two carrying bars which clamp to a weighted and insulated standard allowing them to be raised and lowered at will. The strips or plates are inflexible, there-



fore overcoming the difficulty experienced in using the block sheet tin strips as previously mentioned. The results obtained and as shown by the case histories below were far more gratifying than those previously obtained by other methods and the GX-GU electrode was adopted as the best method introduced to date of treating acute gonorrhea in the male with diathermy.

It was soon evident that the lubricant employed played a very important rôle in the amount of heat that the patient could withstand and many mixtures and formulae were tried, among which were petroleum jelly, paste made from soap flakes, and various grades and qualities of soap. It was found that two grades must be used; i. e., a stiff unyielding lubricant for the electrodes and a soft pliable mass for the penis. At present solid surgical green soap is employed for the electrodes. Using a spatula it is spread evenly over the surfaces of the electrodes in a layer of nearly a quarter of an inch thick. The penis is well lubricated with a lubricant of the following formula: 2 tumblerfuls green soap (solid),  $3\frac{1}{2}$  of water and 3 oz. of glycerine. The first two items are boiled at a steady heat for one hour, then glycerine is added and the mixture boiled until of a creamy consistency. It is better after cooling to beat until it turns a lighter color as then it is not lumpy.

The following description of the technique of giving such a treatment may be of some benefit to the physician employing diathermy in the treatment of such cases in a general practice where it is necessary for him to see other patients with other ailments during his office hours while such a treatment is in progress, and which necessitates extreme care in not contaminating his other patients in so doing.

The treatment is given in a sitting position as shown by the accompanying photograph. The patient is asked to strip since his clothes are very likely to be soiled by the soap should he not do so. An examining table that can be so adjusted is ideal. At the first sitting the hair at the base of the penis is sheared because it oftentimes causes burning with the current if not removed.

A table near by should be employed, having at hand a jar of solid green soap, a jar of the softer soap, gloves, a spatula, powder, scissors, etc. After having satisfactorily spread the lubri-

cant over the electrodes the penis is lubricated, the operator wearing rubber gloves and using a spatula or wooden tongue blade to insure its being spread evenly. The electrode is then placed, having clamped the lower electrode first in position with the penis lying on it between the two glass side supports and at a height of about four inches on the standard. Then the upper electrode is brought down to fit snugly, not too firmly for the patient's comfort, but enough to insure good solid contact.

Having attached the machine cables to the two electrodes it is wise to remove the gloves and go through a lysol hand bath before regulating the machine and actually starting the treatment. In this way the machine controls are not contaminated and the operator can touch them without soiling his hands as he "looks in" between his desk room consultations with his other patients.

It is generally conceded by bacteriologists that gonococci held at a temperature of  $108^{\circ}$  F. for thirty to forty-five minutes will be destroyed, and at a temperature of  $113^{\circ}$  F. will be instantly killed. It is impossible to reach such a temperature in this treatment because of damage to the tissues but an approach to such a temperature will kill a great number of the gonococci and attenuate still more. If such a temperature could be reached one treatment would suffice; this being impossible however, a number of treatments are necessary. This number depends upon how soon after the first evidence of discharge the treatments are begun, and secondly, the individual's tolerance of heat. From 1,000 to 1,450 milliamperes of current are employed without discomfort. It is wise to start at about 500 M.A., using about three or four minutes in approaching the maximum and the same length of time in terminating the treatment. The seance should last about forty-five minutes. When finished the patient is given wet and dry towels to remove the soap.

It would be best if the patient did not work, especially those doing physical labor, but in most cases they are able to continue. The usual advice is given as to refraining from alcohol, the irritating condiments and intercourse. *In connection with the diathermy, injections of Mercurochrome  $1\frac{1}{2}\%$  about five times daily are em-*

ployed. *Methylene blue and methenamine by mouth are administered.*

The treatments are given every second day until the patient states that all of his discharge has stopped except that very stubborn thing "the morning drop." Thereafter they are given every third day until this disappears and then still continued for a period of about two weeks to insure its not returning. At the end of this time the posterior urethra is explored with a metal sound, usually using a 16 F. The sound used by the writer has a 1/16 inch hole drilled at the curve. When withdrawn any material in this recess can be blown out onto a glass slide by using a pipette. The smears are stained by the usual Gram method and examined microscopically. These being negative the procedure is repeated until three have been made, each two days apart. All being likewise negative the patient is instructed to return at monthly intervals for six months.

On advice from the laboratories of the Illinois State Health Department the mercurochrome staining of the smears examined does not interfere with the Gram stain.

Below are a few case histories showing the time in the various stages of the infection:

W. F., age 25, truck driver, 1st infection, incubation one week, presented himself second day of discharge, no previous treatment.

March 4—Gonococci positive, profuse purulent discharge.

March 20—Serous discharge.

April 1—Morning drop only.

April 18—Total disappearance of all discharge.

May 18, 20, 28—No gonococci thereafter.

H. D., age 19, laborer, first infection, incubation nine days, presented himself first day of discharge.

Jan. 5—Gonococci present—profuse purulent discharge.

Feb. 5—Morning drop only.

Feb. 18—Total disappearance of all discharge. No gonococci.

Feb. 25, 28—No gonococci. Thereafter none found on repeated sounding.

C. V. E., age 27, farmer, first infection, incubation period of six days. Presented himself second day of discharge. No previous treatment.

Oct. 25—Gonococci present. Profuse purulent discharge.

Nov. 1—Discharge stopped totally.

Nov. 18—Had influenza, confined to bed, noticed itching and soreness of penis and discharge for one day only.

Nov. 24.—Able to again start diathermy treatment. Continued for nearly one month with all smears made at external meatus negative.

Dec. 20, Jan. 10, 19, and March 12—Posterior soundings. Gonococci negative thereafter.

Thus in conclusion of some two hundred and fifty diathermy treatments given it is found that the average case treated with diathermy and showing an initial profuse purulent discharge will not be profuse at the end of four or five treatments given every other day, that all but the morning drop will have disappeared in about a month and that the morning drop two weeks later will be absent. Further, monthly posterior soundings have been consistently negative. 519 South State Street.

## OBSTETRICAL OPERATIVE PROCEDURES

### INDICATIONS FOR OPERATIVE INTERFERENCE CHOICE OF OPERATIVE METHODS.

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Surgical skill alone will not save lives at confinement, it requires obstetrical judgment which seldom is possessed by the general surgeon.

There are just two very common and particular reasons why this subject should be presented and discussed, namely:

1. The tremendous infant mortality.
2. The terrible maternal morbidity.

The infant mortality is easily ascertained from vital statistic reports while the maternal morbidity may be only guessed at by a study of hospital records of gynecological operations. Some one has said: "Gynecologists thrive on the mistakes of the obstetrician." Mistakes are made in three ways:

1. The wrong operation may be performed, delivering a dead baby by Cesarean section.
2. He may do the right operation at the wrong time; applying forceps before the cervix is completely dilated.
3. The correct operation may be done at the proper time but wrongly executed; performing a version with the back posterior and the cord around the thigh.

Operative interference with nature at childbirth is justifiable for only two general reasons:

1. Conditions which threaten the life of the mother.
2. Conditions which threaten the life of the child.



Both lives are at stake in most of the conditions which threaten the life of either.

I wish to emphasize some important points in treatment and to discuss special conditions and their seriousness, by case histories which will best illustrate by concrete example some of the methods which I have used in private practice, reviewing especially cases of 1. Eclampsia and toxemias, 2. Placenta previa and premature detachment, 3. Infundibular pelvis, 4. Flat pelvis, 5. Malpositions of the child, 6. Other abnormalities.

*Eclampsia and Toxemia:* Case 1. Mrs. R., age 26, para-I, last menstruation Aug. 17, life felt December 21, confinement expected May 25; past history negative, pelvic measurements large. Physical examination normal except for a small bilateral simple goiter. Blood pressure and urine frequently tested had been normal until April 26, on which day I called at noon; she felt fine and was working in the garden. Her blood pressure was 180/100 and the urine loaded with albumin and granular casts. At five o'clock headache developed, then vomiting, followed by blurred vision and mental confusion; these symptoms became more severe, culminating in a convulsion at 10:20 p. m. The cervix was closed, the perineum rigid, the child large and prospects of a difficult, hard labor at best.

Ether was administered and a 7¼-pound girl delivered by Cesarian section. The woman had eleven convulsions during the night, none after 8:25 a. m. She was confused and unable to recognize her husband or her mother for three days. Casts and albumin disappeared from the urine, mother and child in good condition left the hospital June 8. She has no recollection of her trip to the hospital thirteen days previous.

Case 2. Mrs. N., para-II, age 27, confinement expected March 16; on March 5 at noon she had a severe convulsion; one hour later I saw her for the first time; she was still unconscious. Measurements normal, cervix admitted two fingers, convulsions recurred several times that night. At ten o'clock next morning dilation was completed manually and Tarnier's axis-traction forceps used, delivering a six-pound baby girl with only a slight scalp abrasion; the mother sustained a first degree perineal tear. Recovery to normal was complete.

Case 3. Mrs. W., age 29, para-I, confinement expected June 30. This patient was referred to me June 13, on account of swollen face, hands and feet; headache and twitchings; blood pressure 140/90; urine contained albumin and many casts. She was kept in bed, milk diet, alkaline diuretics and magnesium sulphate. All toxic conditions were relieved in a few days and labor pains began June 22; after twelve hours the cervix was completely dilated, but the head remained high and the woman's facial muscles were twitching. Ether was administered, Tar-

nier forceps applied; one hour later a seven-pound three-ounce male delivered uninjured. The mother had a first degree tear. July 4 they returned home in good condition.

Toxemias of pregnancy at or near term must be treated on their merits according to the severity of the symptoms and condition of the genital passage.

*Placenta Previa:* The marginal variety occurs so often and gives so little trouble that we will now consider only those centrally located over the cervix.

Case 4. Mrs. B., age 26, para-I, confinement expected April 11. Her general health, measurements, urine, blood-pressure were normal. She awoke May 2 (about three weeks overdue) without pains but bleeding profusely. She was quickly removed to Wesley Memorial Hospital and by Cesarean section, delivered of an 8¼ pound male baby. Both patients in good condition went home at the end of two weeks.

Case 5. Mrs. B., age 26, para-I, labor due Aug. 23. Conditions progressed normally until Aug. 7. While quietly sitting at rest she had a profuse uterine hemorrhage. I packed the vagina with gauze, moved her to the hospital and did a podalic version, brought down one leg which controlled hemorrhage. Ten hours later a six-pound dead boy was delivered, followed at once by the placenta and more hemorrhage, which stopped with a five-yard roll of gauze placed in the uterus with a Holmes packer. The woman made an uneventful recovery.

Case 6. Mrs. U., age 27, para-III. She worked hard, reaching and lifting heavy boxes. About one week after her confinement was due she had sharp pains which lasted for two hours on three consecutive days; on the following night external hemorrhage appeared and labor pains were severe, her physician could not be reached. I was called at midnight, the woman was moribund, the uterus distended, tense and hard; no fetal motion or heart-tones could be elicited, she was white and pulseless, complaining of thirst, headache and blindness. The family doctor arrived; the cervix admitted a hand, I ruptured the membrane, administered pituitrin, performed an easy version and extraction; the placenta and blood clots following rapidly; the uterus was packed, there was no more bleeding. Death occurred within an hour.

Comment: Hemorrhage at the onset of labor is always serious. With a placenta covering the os and with resistant parts to be overcome, we can bring down a leg, stop hemorrhage and save the mother's life but if bleeding is only moderate, Cesarean section with very little additional risk offers a good chance for saving the baby's as well as the mother's life.

Concealed hemorrhage from a detached pla-

centa is more formidable because great damage may be done before it is recognized. Prompt, energetic action must be instituted for all bleedings if lives are to be saved.

**Funnel Pelves:** If markedly contracted only Cesarean section will save both lives; there is also less trauma in doing a section than is usually produced in dragging a baby through the small bony ring.

Case 7. Mrs. M., age 27, para-I, normal inlet, distance between tuberosities is under 7 cm. I first saw her after she had been in labor for three days with a blood tinged mucus discharge and no advancement. I delivered a 6¼ pound boy by Cesarean section; mother and son in good condition left the hospital on the twelfth day. In less than a year I delivered her second child, a 7¾ pound girl, under conditions similar to her first confinement.

Case 8. Mrs. M., age 18, para-I, inlet measurements oversize tapering to a very small outlet. This woman labored for many hours; version was tried and failed, the baby could not be delivered by forceps. By midnight the cord prolapsed and was pulseless. At daylight I was called and delivered the dead baby by craniotomy. Her second pregnancy has since been terminated by Cesarean section with good results.

Case 9. Mrs. H., age 25, para-I, large inlet, contracted outlet. Her mother, a midwife, insisted (over my protest) that the daughter would, on account of her large hips, have a very easy labor. Pains were severe and the bag of water broke early; after two days of hard labor the mother relinquished; the patient was moved to the hospital and I delivered abdominally a seven-pound girl. No complications developed and they left the hospital on the tenth day. Just thirteen months later I delivered for this woman the second baby girl by Cesarean section.

Many physicians, no matter how careful they are in taking inlet measurements usually neglect the outlet diameters. I wish to warn against overlooking this important measurement as disastrous results may occur from placing dependence on inlet measurements and external appearances.

#### *Flat Pelvis:*

Case 10. Mrs. P., age 22, para-I, simple flat pelvis, general health good, menstruated April 14, 1918, labor expected January 21, 1919. I warned against having a large baby and advised the induction of labor before maturity; by so doing I frightened her away. The baby was born Jan. 9, a hard forceps delivery. I did not learn particulars except that the baby died on the fifth day of cerebral hemorrhage. Mrs. P. returned to me during her second pregnancy; at eight months I induced labor with Voorhee's bags; I then performed a version and with difficulty extracted an eight pound girl, resuscitation was difficult. Both mother and child

went home in good health on the twelfth day. Her third pregnancy was allowed to go to term; on September 1, 1925, I delivered a nine pound girl by Cesarean section. They went home in good condition at the end of two weeks.

**Malposition of the Child:** Any condition which interferes with engagement alters the normal attitude of the fetus.

**Transverse Presentation: Cross Birth:** The fetal body axis cuts the axis of the mother's body at an angle of 45° to an angle of 90° and is unable to pass through the birth canal.

First learn the cause of such presentation which may be due to:

1. Weak labor pains.
2. Mobility of the fetus.
  - (a) Flabby uterus.
  - (b) Excessive fluid.
  - (c) Small baby.
3. Displacement of presenting parts.
  - (a) Small inlet.
  - (b) Large head.
  - (c) Pelvic tumor.
  - (d) Placental pathology.
  - (e) Bags for induction of labor.
  - (f) Sudden, early rupture of amniotic sac.

**Treatment:** Convert your transverse into a longitudinal presentation, unless disproportion between head and pelvis is too great, complete the partial version into a breech; otherwise, if baby is perfect, do an abdominal delivery.

**Breech Labor Is Normal:** Baby may perish, because:

1. Circulation may stop by hard head pressing placenta.
2. Cord may be impinged between head or body and pelvis
  - (a) Danger great in Justo minor pelvis.
  - (b) Danger slight in rachitic pelvis.
3. Short Cord:
  - (a) Actually short, 25 cm. or less.
  - (b) Relatively short, around neck, body or extremity.

Short cord may result in:

- (a) Pulling off placenta (most frequent).
- (b) Rupture of cord (most rare).
- (c) Inversion of uterus (adherent placenta).
- (d) Hernia of the navel.

Diagnosis of short cord; clinically:

- (a) Presenting part advances during pain and again retracts.
- (b) Sharp localized pain during contraction.
- (c) Depression at placental site (if thin abdomen).
- (d) Intermittent soufflé. Intermittent urination.
- (e) Palpation of the cord.

4. Asphyxia:

- (a) Cold air stimulates respiration (keep exposed parts warm).
- (b) Arms may slip over head (keep uterus pushed over child).
- (c) Cervix may pinhead head (push off or cut).
- (d) Large shoulders may delay extraction (do an episiotomy).

5. Injury and sepsis may cause death later.

**Faulty Presentations:** Prolapsed fetal parts and anomalies of flexion extension or of rotation, when recognized before the engagement is fixed, are easily corrected and the method of choice for



delivery will depend upon the underlying pathology. Neglected cases usually require surgical intervention by one trained in operative technique, for skill in such cases cannot be learned from lectures, books or diagrams, it is acquired only by practice.

*Lacerations:* Tears and contusions of maternal soft parts may be only a split mucosa, requiring no repair or may include any degree of injury to the vagina, cervix, uterine body or adjacent structures. The common damages are cared for along general surgical principles. Perineal and cervical lacerations should be sutured at once to protect against possible hemorrhage, sepsis and prolapse. The greatest damage inflicted is done through the inability to recognize physiological limitations, as illustrated in the following instance:

Case 11. Mrs. S., multipara, labor at term; membrane ruptured spontaneously September 25, at 11 p. m.; next morning at 7:15, Pituitrin mv, was given by the attending physician; he then performed a version at 8:15 a. m., extracting a dead  $8\frac{1}{3}$  pound female. The mother went into shock with signs of internal hemorrhage. A laparotomy performed one hour later revealed an irregular, oblique tear through the lower anterior wall of the uterus and reflected portion of bladder peritoneum. Supravaginal hysterectomy was followed by a stormy, septic convalescence; she went home October 12, improved.

*Misplaced, Maldeveloped and Deformed Fetuses:* In spite of the interest and importance of diagnosis and treatment of extra-uterine pregnancy, monstrosities, moles, etc., no attempt will be made at this time to discuss them.

*Conclusions:* Obstetrics is a fixed, definite, important branch of medical practice; just as much a fixed specialty as pediatrics, just as definite as orthopedics, just as important as tuberculosis. Every physician doing a general practice, believes himself competent to deliver babies, although he sends marasmus babies to a pediatrician, talipes valgus to the orthopedist and hemoptysis requires consultation with an internist.

Obstetrical practice must be cared for by the family physician but he must anticipate dangers, recognize complications, realize his limitations and urgently demand assistance before serious results develop.

Watchful expectancy does not refer so much to good eyesight as it does to a clear insight into conditions within the pelvis.

Obstetrical proficiency may be obtained by

practice but to maintain success, three things must be accomplished:

1. Develop a technique.
2. Acquire skill.
3. Attain precision.

Didactic instructions and extensive reading are necessary to understand the theoretical considerations; version, the application of forceps and the mutilating operations are mastered by practice on the manikin, abdominal operations and pelvic repairs may be learned best by apprenticeship with a good surgeon.

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## PROTEIN THERAPY IN THE PRACTICE OF OPHTHALMOLOGY\*

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In this paper I shall not review the history of protein therapy nor discuss the theory of the non-specific reaction and its probable mechanism of effect. Nor shall I touch upon the now changing standards of bacterial activity, of specificity and immunity in this connection. Nor can I more than refer to what is known to-day as "colloid chemistry," and the "colloidal state" of given substances (according to August Lumiere and others). Although these theoretical and chemical phases of the subject are of intense interest—we hear recently from Lumiere that "the mechanism of the mysterious colloids holds in suspense the future progress of biology"—the time allotted to me will permit only passing reference to them.

As a field of research, foreign protein therapy is no longer opposed by the standards of immunity. Its present status has come to pass through the pressure of insistent demand on the theorist by the accumulating evidence of clinical results in both human and animal experimentation. Although Ehrlich's side-chain theory may best explain the specificity and mode of action of various antibodies, there is a growing tendency to explain many of these reactions on a physico-chemical and colloidal basis. Antigens are substances that cause antibodies in the body fluids. And without exception antigens are colloids and usually protein in nature. Furthermore, antibodies are colloid in their chemi-

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cal characteristics; while they may or may not be solutions of colloids, they are, in the final analysis, products of cellular activity and, therefore, derived from colloids (colloid dispersions).

This study of protein therapy, then, embraces the questions of immunity, specificity, anaphylaxis, cellular sensitization and desensitization, as well as the physico-chemical relation to infections. While these questions refer particularly to the mechanism of the reaction which follows a foreign protein injection, it is with these in mind that we should first select suitable cases for making our observations. Second, we should choose the most available and most potent form of protein to employ (animal, vegetable, bacterial). Third, we should determine upon the most effective method of injection (intra-dermal, sub-dermal, intramuscular or intravenous). And, finally, we should study the most appropriate time for the injection in relation to the time of other treatment.

As to the type of case, I believe it is quite necessary to establish a fairly definite etiologic diagnosis, before one can draw conclusions. When we see authentic cases, for example,—cases of sub-acute or chronic gonorrhea cured by an attack of pneumonia, it seems to me to be a definite indication of the protein reaction. And when we must accept the evidence at hand following tuberculin injections in cases not tubercular, or even in tubercular cases, in which perhaps the effect may after all be the result of the high potential effect of the bacterial protein (dead tubercle bacilli) rather than a specific bacterial effect, it would seem that we must recognize the importance of such observations, and attempt to use this data in the further clinical and experimental study of this problem. In cases of pustule of the cornea and in serpiginous ulcer we are familiar with the microorganisms commonly found in these lesions, and the effect of foreign protein therapy in these and similar cases has now become a matter of common report. In other words, staphylococci and pneumococci infection of the refractive media of the eye seems distinctly affected by the foreign protein reaction. The indications, therefore, in which one may seem justified in administering it, may be enumerated as follows: In pustule of the cornea; in *ulcus serpens* and hypopyon keratitis, infection after penetration and

panophthalmitis, idiopathic iritis and iridocyclitis (hidden focus of infection), keratomalacia and sympathetic ophthalmia, and for prophylactic purposes in certain cases. It has been employed, however, for disease of almost every anatomic element of the eye, also for the different infections to which the eye is exposed, and without any regard for the pathologic or bacteriologic diagnosis. These observations are obviously confusing and doubtful, and do not contribute at this time to the real value of the therapy or to solving the problem of its effect on the organism.

It is quite obvious that the best opportunity for observing the clinical effects of the serum is offered by cases of penetrating wound of the cornea with infection, because the only effective local treatment is that of hot fomentations and atropine, antiseptics being of little value; whereas, in *ulcus serpens* with hypopyon, the effect of cauterization and antiseptics cannot be as clearly separated in many cases from the effect induced by protein injection. However, numerous cases of hypopyon keratitis, in spite of intensive and persistent local treatment, have been observed to progress steadily until the protein injection was given.

In regard to the selection of the most suitable, highly potential foreign protein available—anti-diphtheritic serum, as it is now prepared and concentrated, offers perhaps the best form for administration to the human. Because milk varies in its potential and toxic action numerous commercial preparations are now undergoing experimentation. Normal horse-serum, "aolan," yatsencasein, "ciba" (cibalumin, aseptic solution of egg albumin) albumose, proteose, non-specific vaccines, etc., have not yet been shown to possess with any certainty a more reactive and potential effect than that of anti-diphtheritic serum. "Aolan" has been heralded as a preferable form because it does not produce a noticeable systemic reaction. This is strange, since a positive systemic reaction, that is to say, a moderate rise in temperature, etc., is believed to be *necessary* in order to establish the pre-anaphylactic stage of hypersensitivity and thereby increase the resistance which is the therapeutic effect. Furthermore the dosage and reaction of other preparations are *uncertain*. The dosage of the anti-diphtheritic serum is certainly more definite and its anaphylactic effects



are more clearly understood. Banzhaf's method of preparing the serum by isolating the antitoxin globulins permits the use of a concentrated serum, which lessens the incidence of serum sickness and facilitates the administration of larger doses. According to Park, this method gives a concentration of about six times the original potency. Darier, Frogier and others claim to have shown that it is ten times more potent than normal horse-serum, which they claim may be due not only to its high concentration and method of preparation, but also, perhaps, to the constituents attributed to the diphtheria bacillus or toxin. Moreover, the theory as to the properties and structure of antibodies in immunity lends striking evidence, (Vaughan, Kraus, Ichikawa, Ludke) that there may be a direct antagonist, a special antigen or protein (globulin) in the serum more active than a mere animal protein (horse-serum, milk, egg albumin) the method of concentration of the serum adding to the concentration of the antibody elements in the serum. If there is any virtue to be had in the nonspecific diphtheritic elements (colloids?) in the serum, it would seem that anti-diphtheritic serum has the decided advantage and preference over other forms of proteins employed in this therapy. Furthermore, the facility of obtaining and administering suitable doses of anti-diphtheritic serum is a distinct advantage not to be overlooked.

As for anaphylaxis, a concentrated serum is not so likely to produce serum sickness as whole serum, since a smaller quantity of it is injected. The history of previous anaphylactic conditions, previous diphtheria, status lymphaticus, asthma or hay-fever-like attacks in persons proved susceptible in a stable and horse-environment are well established as probable contraindications to serum injections. I have not observed serious anaphylactic effects in any case (now about 300 cases treated) and doses have varied from 1 to 6 c. c. (1,000 to 5,000 units); a total in one case of 14 c. c. (12,000 units, given in 3,000 to 2,000 unit doses). These doses are pitifully small when contrasted with those frequently given even for prophylactic purposes in diphtheria (5,000 to 10,000 units), not to mention those employed for the full therapeutic effect (10,000 to 20,000 units). Verhoff recently reports the injection of 20 c. c. (about 16,000 to 20,000 units) every day for a period of about

two months in a case of sympathetic ophthalmia, in which he claims a cure. My own experience, however, has taught me some respect for the highly potential effect of antidiphtheritic serum, and also that small doses of 3 to 4 c. c. (2,400 to 3,200 units) are harmless and yet are sufficient to produce a moderate systemic reaction just short of anaphylaxis.

The time of injection and the size of the dose have been given much consideration and have been referred to with some emphasis in my previous reports. The matter of anaphylaxis is of importance in this regard because sufficiently large doses are essential, just as they are in the treatment of diphtheria, in order to produce a suitable reaction and effect. This is necessary because the serum is almost immediately effective (ten minutes after injection, Rosenau), and this stage of preanaphylactic effect, representing the incubation period of disease, is the period of gradually increasing sensitivity of the body cells to the foreign protein or disease element (bacteria) as a measure of body defense against the invader. The first stage of anaphylaxis is known to be one of exhilaration and stimulation, followed by one of depression, paresis, arrest of breathing, etc. For this reason, it is my practice, after cauterizing an active ulcer of the cornea, to have the serum injected as soon as possible. For the same reason, we find an explanation for the constant observation that the effect of the serum is manifest always within twenty-four to forty-eight hours after injection—the time of hypersensitivity and cellular reaction. It is clear, therefore, that the time of the injection is important, as well as the size of the dose and the relation to local treatment.

In this connection, I believe it is generally recognized that hypopyon keratitis is rarely seen in a strong, healthy young individual, and when such cases are observed, intensive local measures alone quickly yield the usual good result. On the other hand, we find serpiginous ulcer occurring commonly in the aged and in debilitated individuals usually following upon the neglect of a local injury, and the center of the cornea, the area least protected by systemic resistance, is the area almost invariably affected. Here the problem of cause and effect is obvious. The question of virulence of the infecting micro-organism on the one hand and the defensive powers of the host on the other is evident. In

an effort to secure a fixed virus of staphylococci by standardizing the virulence of a certain strain through "passage"—and thereby suitable dilution of this virus—I have attempted to obtain that dilution which will produce by puncture of the corneal stroma the slightest but active ulceration of the punctured area. These experiments were reported in the *Atlantic Medical Journal* of March, 1925. It is clear that by this more certain means of standardizing the virulence and controlling the dosage of the infecting micro-organism, the matter of resistance becomes the more direct unknown quantity in the problem of cause and effect. It was found that these dilutions varied greatly with the different strains of staphylococci taken from various parts of the body, the most virulent strains being those taken from the eye. The dilution was as great as 1 to 30,000 (.01 c. c. of bouillon culture of staphylococci diluted in 300 c. c. of normal salt solution) in order to secure the minimum dosage that would produce the slightest but active ulceration of the rabbit's cornea.

The practical value of this is evident in this study, because we are able thereby to observe the relative value of different forms of protein as well as the dosage necessary to produce the therapeutic effect; and from this one can more definitely measure the resistance of the animal to the inoculation. Furthermore, it makes one realize how minute must be, as a rule, the average quantity of micro-organisms first infecting the eye in a clinical case of hypopyon keratitis or even in a penetrating wound, therefore if a highly potent foreign protein can be injected before the infection has become overwhelming, a satisfactory result instead of what otherwise might have been a calamity, may be obtained, and is deserving of our knowledge of these facts.

With these theoretical and clinical phases of the subject in mind, I have, during the past two years, confined my study to the inoculation of the true cornea with the staphylococcus pyogenes aureus, observing the effects of intramuscular injections of antidiphtheritic serum as against concentrated horse-serum, milk and typhoid vaccine, in the attempt to compare the relative value of each. In this series of twenty-six experiments, it was necessary to inoculate seventy-four rabbits' cornea. Where any effect from previous inoculation, and possible immunity thereby, could interfere in any sense with the correct interpretation

of the results, that animal was eliminated. The rabbits used were about the same within reasonable limits as to uniform size and weight. Usually six were inoculated in each experiment, two being injected with antidiphtheritic serum, two with typhoid vaccine or milk or horse-serum, and two used as controls.

Up to this time the results have shown that in almost every instance where any difference could be noted, the animal which had received the foreign protein injection showed the least corneal reaction to the infecting micro-organism. On the other hand, no important difference between the effect of antidiphtheritic serum, concentrated horse-serum and typhoid vaccine could be observed in any of the experiments. Sterile milk, though used in only two experiments (twelve rabbits being inoculated) showed no effect whatever, and the corneal lesions were similar in every way to those of the control animals. The results of these experiments were presented in some detail before the American College of Surgeons, in October, 1925.

As to protein therapy in practice, the following method of treatment is suggested. Intramuscular injection seems to be preferred to subcuticular, intravenous or oral administration, as variously advocated by different observers. Two to six c. c. (representing two to five thousand units) of antidiphtheritic serum, varying with the age and weight of the patient, is injected at the earliest possible moment after local treatment, this dose being repeated or modified in forty-eight hours, depending on the reaction observed after the previous injection. A third and even fourth dose may be given, at forty-eight hour intervals, without fear of serious anaphylactic symptoms, if the previous dose has failed to produce a local and quite active systemic effect. Four c. c. (about 3,200 units) is the average dose employed and seems to be just as effective as larger doses. Clinically, I have not observed serious anaphylactic symptoms from antidiphtheritic serum, but I have seen alarming symptoms from typhoid vaccine used for immunizing purposes; I have also seen alarming symptoms from milk injections.

Obviously, protein injection should never be relied upon alone to combat an infection, since no claim is made for it as a germicide. In hypopyon keratitis I have always cauterized the ulcer with phenol followed immediately by al-



cohol (50 per cent); in advanced cases multiple incisions are made through the ulcerated area, followed by the cauterization. This is done because the ulcer is one of the violent type, almost invariably located centrally, most frequently occurring in patients past middle life, and to delay local intensive measures in order to observe the serum effect would prove little and risk much. In the case of penetrating wound with infection early observed, where hot fomentations and atropine are the only local means of value, and in cases of beginning ulcer of the cornea, in both of which conditions the threshold of resistance of the patient is made higher by protein injection, local treatment has been found unnecessary. This is borne out by personal observation clinically, as well as by animal experimentation, both of which I have shown and reported. This does not argue in any sense, however, against the necessity for the employment of local intensive measures, but is mentioned merely for the purpose of demonstrating the efficacy of the systemic reaction in cases where the invading micro-organism has not become overwhelming.

A local measure which I have used in some cases, and which I believe to be of value, is subtenon injections of warm hypertonic (2 per cent) salt solution given a few hours after injection of the serum, for the purpose of increasing the permeability of the capillaries and stimulating leucocytic activity.

A recitation of detailed case reports at this time would be unfitting and unnecessary. But two case reports in illustration may be of interest.

J. S., aged 6 years, was admitted to New York Eye and Ear Infirmary, February 21, 1919, suffering with an active phlyctenular pustule of cornea. Phlyctenular conjunctivitis had been present for the duration of a month. On admission the usual catharsis and feeding, with local hot bathing and the administration of atropin and argyrol were carried out, until March 15, three weeks after admission, when a line of hypopyon appeared. The next day there was 2 mm. of hypopyon and the corneal process and iritic reaction were more violent. Without any change in the local or general treatment and without any surgical interference or cauterization, 1,000 units of serum was injected. In twelve hours the hypopyon had completely disappeared, and the conjunctival and corneal reaction was improved; in forty-eight hours the eye was almost entirely quiet, and three days afterward, March 22, the patient was dis-

charged, the eye being open and only slightly injected.

It cannot be doubted that here a systemic influence was causative in the pustule with hypopyon and that it was promptly met by the systemic effect of the serum.

F. C., male, aged 29, was admitted on March 27, 1922, with a penetrating wound of the cornea, no hypopyon. The third day, in spite of the usual intensive local treatment, hypopyon of 2 mm. developed over night. The lips of the wound were whitish; the entire cornea was hazy, and there was the usual iritic reaction. Not until hypopyon developed was the serum injected (3,000 units). A peculiarly violent local and constitutional reaction followed (great edema of the injected arm, temperature of 101.5 F., nausea and headache, mild erythema of arm and body) but in twenty-four hours there was, coincident with this general reaction, relief of ocular pain and definite reduction in the hypopyon, which disappeared entirely in forty-eight hours. Daily improvement (clearing of the anterior segment) allowed his discharge ten days later. This complete reversal in the behavior of an anterior infection can be attributed only to sudden systemic stimulation ("omnicellular plasma-activation" of Weichardt) and increased local resistance. (I presented this patient in person before the New York Ophthalmological Society and also before the New York Academy of Medicine.)

Finally, what are the clinical effects upon the organism to be observed after protein injection? These may be outlined as follows: First, the systemic reaction; and second, the focal (reaction) or therapeutic effect.

The systemic reaction is expressed (depending on the character and amount of the agent injected and the sensitization of the particular individual thereto) by a slight chill, rise in temperature, variations in pulse and blood pressure, sweating, nausea, nervous irritability, skin reaction, glandular activity, permeability of the capillaries, lymphagogue effect and certain variations in the blood—such as concentration, altered coagulability, leukocytic response, increased antiferment and alteration in the antibody titer of the serum of the patient. The study of this reaction has grown out of nature's own method of resistance and repair, constantly demonstrated by the reaction from counter irritants, vaccines, enzymes, drugs, yeasts, colloidal metals, bacteria, etc. It is believed, therefore, that in a similar manner there is brought about in the body true tissue stimulation and activation, the therapeutic effect being produced by altering the reactivity

of the whole organism, rather than by directly influencing the cause of the pathologic process.

The focal or therapeutic effect observed in cases of hypopyon keratitis may be numerated as follows: in from twenty-four to forty-eight hours after the initial injection, the hypopyon is reduced or has disappeared, if not, some complication may be found to explain the effect (as occurred in four cases which I have reported, three of them syphilis, and one unaccounted for). Hypopyon may reappear with increased corneal and conjunctival reaction when injection of the serum is delayed or discontinued (as reported in detail in seven cases of a series of twenty-three) but almost invariably disappears promptly when injection of the serum is resumed (the same local treatment being administered). Besides the noticeable effect on hypopyon there is relief of pain, rapidly subsiding conjunctival and iritic reaction and a clearing away of ulcer debris, such as does not usually occur in these cases, the ulcer itself taking on a clear and clean appearance early in the process of repair. The result of this prompt healing and clearing away of ulcer debris is found in the surprisingly mild opacities which remain, and in many instances the vision obtained is far beyond expectation.

The effects to be observed in cases of penetrating wound with infection are in every way similar to those occurring in cases of hypopyon keratitis, the anterior segment clearing remarkably, and in some instances almost as rapidly as the infection had developed. In overwhelming infection and panophthalmitis, although no curative effect can be expected, there is often relief of pain, and the anterior segment gradually becomes clear and transparent and free of hypopyon. In idiopathic iritis, when the focus of infection cannot be found, antidiphtheritic serum has been employed with success that I hardly dare to quote. I have used it in three cases only, but could not be sure whether the curative effects should be attributed to the protein or to other intensive measures employed. In ulcer serpens, before hypopyon develops, the results are quite uniform, and indicate the type of case particularly adapted for the administration of protein therapy. In these cases and in early cases of penetrating wound, and in most cases of hypopyon keratitis the therapeutic value of protein therapy is undoubtedly demonstrated.

In conclusion, I do not wish to be regarded as

over-enthusiastic about this subject, but I feel that I can suggest that you administer antidiphtheritic serum in your next five cases of penetrating wound WITH infection, or of hypopyon keratitis, before the infection has become overwhelming—and then draw your own conclusions.

Furthermore, I wish to affirm that "colloid chemistry" in medicine has come to stay, and the sooner systematic and serious research of the varieties and forms of protein (animal, vegetable and bacterial) and their particular reactions to infection is carried out, the more valuable will become our therapeutic strength to combat disease.

On the other hand, I wish to state with some seriousness that we should not draw conclusions about protein therapy too quickly, but rather should sift the data and take stock, as is were, from time to time, as to what has been shown to be reasonably true about it. We cannot accept much that is reported and published, for protein therapy is too popular to-day to be all that is claimed for it. It is by no means a "cure all." In such instances the credulity of the laity and even of the medical profession, is at stake.

100 West Fifty-ninth Street.

#### THE SUMMER ROUND-UP OF THE ILLINOIS COUNCIL OF PARENT- TEACHER ASSOCIATIONS

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At the 77th Annual Meeting of the Illinois State Medical Society discussion was precipitated which indicates there is an erroneous understanding of the policy of the Illinois Council of Parent-Teacher Associations concerning the Summer Round-up of the children, an effort to send to the entering grade of school, each fall, a class of children 100 per cent free from remediable defects.

In order to clarify this in the minds of physicians throughout the state and to help establish cooperative relations between physicians and dentists, and parent-teacher associations may I call attention to the Plan of Work for Summer Round-up which was approved by the state executive Committee and which was printed in the



April, 1927, *Bulletin of the Illinois Council of Parent-Teacher Associations*.

1. Consult school authorities for (a) co-operations; (b) use of building.

2. Register with state president.

3. Make immediate canvass to determine the number of children to be examined, using as sources of information:

(a) House to house canvass.

(b) Kindergarten rolls.

(c) Cradle rolls.

4. Secure cooperation of those needed to conduct examinations:

(a) Physicians:

County Medical Society.

Public Health physicians.

(b) Dentists:

Local branch of dental society.

(c) Nurses:

Local public health nurses.

County nurses.

State nurses.

(d) Assistants:

Parent-Teacher members.

Mothers of children.

5. Secure equipment:

Tables.

Scales.

Tape line.

Tongue blades.

Applicators.

Medicated cotton.

Wash basin water.

Paper toweling.

Paper napkins.

Sheets.

Chairs.

Pen and ink.

Antiseptic solution.

6. As to general procedure: Arrange different periods for examinations of boys and girls. Where many children are to be examined by a small force, arrange a time schedule assigning a definite time for each child to be examined. Provide a room, with a parent-teacher member in charge, where children can be undressed. Children should be accompanied by mothers if possible. Wrap a sheet around the child.

The nurse or parent-teacher member should weigh and measure, with the nurse or parent-teacher member writing the records. The physi-

cian and dentist examine the children, assisted by the nurse, with the nurse or parent-teacher member making the record.

7. Follow up to make sure that remedial work is done by means of newspaper publicity and a canvass of the parents of defective registered children.

8. For a private examination by the family physician and the family dentist make out the examination blank with the child's name and address and age for the mother to have the physician and dentist to fill out. This blank should be returned to the parent-teacher chairman of the Summer Round-up Committee so that the association may have credit for the work when completed.

Notice that nowhere does this plan "advocate free clinic examinations" as it was stated at the Moline meeting.

Notice that section eight suggests procedure for private examinations by the family physicians and dentists. (We have been accused by laymen of "drumming up trade for the doctors.")

Section four advocates securing the cooperation of physicians through the county medical society, of public health physicians, and of dentists through the local branch of the dental society. Cooperation, meaning working together is the word used. Associations were cautioned to invite the professional members to participate, in planning local campaigns, from the very beginning; to give them opportunity to help decide the plan of procedure.

We have knowledge that associations are conducting these campaigns on different principles. Several are following the section eight procedure. In 1926 the Holy Trinity Parent-Teacher Association used this method and was placed on Honor Roll A in the national contest, method of procedure as well as remedial accomplishment having been considered. Not only does the Illinois organization propose this method but the national association encourages it by so recognizing it. Some associations ascertain the name of the family physician, assign the child to the examination period when his family physician is examining. One report shows examinations are being made in clinic fashion, physicians charging \$2.00 a child for the examination.

The differentiations in method are determined by the physicians participating in the campaign.

Probably the majority of the campaigns are being held on the free clinic basis, but again, physicians decide which method they shall pursue. There are reasons for this method; a solidarity of community action is obtained; indifferent and careless parents who would otherwise neglect to have their children examined are jogged into having remedial work done.

Children whose parents can not provide medical care except in extreme illness are provided for, in some instances the parent-teacher association providing paid services for the remedial work, sometimes securing charity work through the usual channels.

In closing may we urge physicians and dentists, especially those with children of school age, to be active members of their local associations; to strive for sympathetic understanding of what the state and national parent-teacher organizations are doing; to do all in their power to educate the laity concerning prevention of disease. The Summer Round-up is an excellent beginning for the latter and deserves to be promoted by physicians, dentists, and laity for the great good of all, especially for the small children.

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### HEART CONDITIONS USUALLY UNRECOGNIZED\*

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Heart trouble may be recognized in many phases. In the early times great attention was paid to the valve involved and whether or not regurgitation or stenosis was the cause of the trouble. Next we went through the period of broken compensation in which this alone was stressed upon. The broken compensation was not generally supposed to have taken place until the patient had reached the stage of marked dyspnea, heart irregularities and edema. This was a source of neglect for the prevention of this latter stage of heart disease. Then we studied the different irregularities as advanced by McKenzie and Lewis. We differentiated all of these irregularities, but this, of course, is not as difficult as to differentiate the type of murmur. I am not trying to belittle the differentiated diagnosis of cardiac irregularities, nor do I want to belittle

the work of the polygraph and the electrocardiograph; though for all practical purposes the two are mostly didactic and academic. The knowledge of these things undoubtedly gave us a more clear and concise knowledge of heart actions; though from the standpoint of the patient the main thing is the relief of the distressing symptoms and the return toward natural life.

The heart patient undoubtedly goes through many years of treatment for auto-intoxication, gas in the stomach or bowels, asthenia, nervousness and various other slipshod diagnoses. It is only with care and time in making your physical examination that you will recognize the early lowering of function of the heart muscles.

One of the most frequent conditions that come to us at an early period are the early angina pectoris cases. Many of these have had previous diagnosis of pleurisy, intercostal neuralgia, indigestion and gas on the stomach. Perhaps the reason that correct diagnosis is not more often made is due to the fact that the heart is regular, of a normal rate and with little, if any, change in the blood pressure. I do not doubt but that most of these cases are certain degrees of coronary sclerosis.

The age varies, and contrary to any teaching I had in school, it is rather frequent in young individuals and not necessarily syphilitic. I have had a large number in the early years, and from then on up to any age. I have seen a few cases occurring in the twenties.

The most characteristic thing is the fact that they have pain which is more or less continuous when it comes on in the precordial region, and sometimes being in the upper part of the chest, and it may extend down into either arm or both arms, or they complain of a pain running through from the vertebral to the upper end of the sternal region. This pain is not modified by holding the breath. The three most characteristic times at which it comes on are: 1. Shortly after starting exertion, especially after a big meal; 2. After mental excitation; and 3. The patient wakes up out of a sound sleep with this pain. Nothing else seems to give relief except nitroglycerin, and in the most severe cases perls of amyl nitrite, and lastly morphin.

The majority of these patients have a pulse running around seventy to eighty, regular, and the blood pressure may range with a systolic of

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\*Read before Southern Illinois Medical Society.



one hundred and ten up. In fact, I have seen many angina pectoris cases occurring with a systolic blood pressure below one hundred, and yet the nitrites act just as efficiently in the low blood pressure as in the high. The dyspnea is variable, some patients having none and others a marked dyspnea according to the condition of the heart muscle.

Another type of patient is the one who comes in complaining of an all-gone feeling. They say they are not able to stand up to their work. You ask them if they are short of breath and they will tell you, no. They do not complain of palpitation, but they have a tired, listless feeling and would rather sit around and do nothing. As a great many express it, they have a lack of pep. You go over them physically and you will find a heart of normal size, area and position; the chest is clear, the abdomen is negative, the urine is negative, the x-ray is negative, and you would say that the patient is in good physical condition. But if you will exercise greater care in taking the blood pressure, you will find that the systolic pressure is very variable with the different beats with a probable range of about ten millimeters difference between the high and the low. This type of case is missed and missed continuously. I believe that it is perhaps one of the most common pathological conditions that comes to a doctor early. Just why this takes place is not always easy to state. It is necessary that you rule out all forms of focal infection, though personally I believe that this factor has been greatly overplayed. These patients respond very readily to digitalis, while some of them do better with both digitalis and Fowler's solution.

A patient very often comes in complaining of fatigue and shortness of breath, and you find a rapid pulse with an occasional missed beat. Or the irregularity may be even more pronounced. The blood pressure is within normal limits, or may be but little raised in some of these cases. The pulse is about normal. You put the patient to bed and give digitalis, and no improvement takes place. You eliminate all possibilities of thyroid involvement, and yet you wonder what is the trouble. The patient perhaps does a little belching. Many complain slightly of gastric distress. You find a slightly tender gall-bladder. It is surprising the amount of good that a medical drainage of the gall-bladder will do in these cases. The pulse slows down, the irregularity

disappears and the patient feels greatly improved. If hypertension is present it may also drop, the amount varying greatly with the individual. We see a large number of slight irregularities that are due to a chronic low grade cholecystitis.

A more severe type of heart involvement may take place as the result of more severe types of gall bladder trouble. The most interesting point is that as the irregularities become more pronounced, the pulse pressure becomes increased, due to a slight lowering of the diastolic with an equal raising of the systolic, the patients complain very severely of a precordial distress with marked attacks of palpitation. These attacks of palpitation come on either after slight exertion or following the ingestion of a heavy meal. These patients have no edema, no nervousness, but a degree of apprehension that is almost equal to that found in angina pectoris. Medical drainage of the gall bladder gives but temporary relief. Surgical drainage is the treatment. It is surprising to find the pulse greatly improved within twenty-four to forty-eight hours following a cholecystotomy. An ice bag over the heart during the first twenty-four hours to forty-eight hours following operation gives the patient a tremendous amount of relief.

We have recently had one of our own men with this condition. A year ago I attempted to treat him for his heart and for his gall bladder. Medical drainage gave only temporary relief. Digitalis had little, if any, effect. A couple of months ago he developed typical biliary colic and jaundice, at which time his irregularity and his palpitation were accentuated. His pulse was improved within twenty-four hours after operation. At a little after forty-eight hours he began to develop hiccoughs which persisted for eleven days. Yet during all this time the irregularity disappeared and the palpitation gradually passed along with the precordial distress. The fact that the heart was improved was our only indication for a good prognosis. At the end of eleven days the tube came out and the hiccoughs disappeared, and the heart has remained good ever since.

One of our oldest problems in medicine is to determine whether anemia is primary or secondary. In spite of all our efforts we must admit that there are a large number of secondary anemia cases whose cause remains unsolved. Where we can find the primary cause, the anemia

is cured by taking care of this causative factor. How frequently do we see a patient with about a seventy-five per cent. hemoglobin, around four million reds, a normal differential count, with a tired, weak feeling, and an inability to carry on much activity. These patients are not necessarily thin. We cannot find any focus of infection. The heart is negative, except for the low blood pressure. If this patient is put upon arsenic, hypodermically, and given digitalis, he may get well. I know at the present time that there is a great wave of propaganda spreading through the country that the inorganic iron does no good in anemia, but those of us who have seen and treated a large number of both primary and secondary anemias with inorganic iron, either by itself or in combination with arsenic, will stand upon the infallible fact that these patients do improve. A clinical and not a laboratory improvement alone is what we are looking for, though the blood count of these patients improves also. These patients do not fill a small part of a doctor's practice, but are rather common. They are easily confused with a low pulse pressure type without anemia or any other pathological condition. They are just short of breath with some degree of palpitation. The heart may be rapid. You may class them as was done in the army as neurocirculatory asthenia, or as the neurosthenic heart in the days before that. Many men would class them as hypo-hyperthyroid, meaning by that, that there are some portions of the thyroid producing an excess while we are getting a lack of secretion from other parts of the gland. Others call them hypoadrenalism. The last is the safe diagnosis because nobody can disprove it. In this type a rest of only a few days with lots of digitalis and arsenic soon straightens these cases up. If the pulse is slow, adrenalin very often helps them out.

When we go back again to remember that very often the earliest manifestations of the heart involvement is a slight low murmur we must avoid the pit-fall of laxness by calling it a hemic or accidental murmur. In my experience, functional murmurs are rare. I often wonder if I do not make a wrong diagnosis in these cases. The softer the murmur, the more anxious I am to find out the cause. It is impossible to give a prognosis in these cases when other cardiac findings are negative until you have observed the patient for a period of at least six months. The

murmur may not be evident in the reclining position, but it is in the erect position, and again it is sometimes the other way. You will pick up this condition when you are examining a patient for an entirely different cause.

Recently I was called in because of fever in a young man of twenty-three. Five days before he had been examined by a doctor for some life insurance, and told that he was absolutely sound. He had a slight murmur in the aortic area. His pulse was a little rapid, and he had the early changes of decreased diastolic and slightly increased systolic, which told me that here was a man who would soon have a break in compensation due to aortic insufficiency, and yet the other cardiac findings were negative. When examined in the erect position, the murmur was gone. Undoubtedly the life insurance examiner listened to the heart while sitting up. The murmur of aortitis is indeed very difficult to differentiate from an aortic insufficiency. A great many of the text-books would lead you to believe that the murmur of aortic insufficiency is diastolic or presystolic.

Nevertheless, we believe that a systolic murmur is very common. It may be heard best over the aortic or pulmonic area, and is transmitted into the vessels of the neck. Stenosis to some extent is undoubtedly present in most of these cases, but the thing that does the damage to the individual is the insufficiency. A large number of them may be syphilitic, but there are greater numbers that are not. Aortitis in its earliest stage gets no change whatever in blood pressure and under the fluoroscope may show a slight enlargement of the aorta, but this is of such varying size in the normal individual that it is more or less a matter of guess work. Practically all aortitis cases have a positive Wassermann. Later on they may develop an aneurism, but if given sufficient antiluetic treatment they will not.

A real loud murmur does not necessarily mean much damage. One of the most interesting cases along the line of loud aortic murmurs that I have watched for several years is the case of a young man that eight years ago I examined for a student's military training camp, who had a slight aortic murmur. I advised him against going to this institution. A year later he took the flu in Washington, developed some little areas of pneumonia, but while still in bed and a few days after the onset you could hear a very



loud rough aortic murmur. It would be audible to the ear several inches away from the chest without the use of a stethoscope. He showed no muscular embarrassment. I have examined him frequently since then, and he went about the normal life of a college student, and there has not been one change in the heart since; nevertheless the murmur continues loud and rough.

To pick up the early mitrals it is necessary to observe the patient for several weeks following the cessation of fever. Years ago I learned to my sorrow that after passing judgment upon cases that had been free from fever for a week or so, that the heart had passed unscathed. I had them come back in one, two, three or four years with broken compensation and apparently the beginning of a mitral murmur. Personally, I believe that I find more damage done to hearts in which the murmur develops after the apparent cessation of the acute infection than those in which the murmur develops during the acute process.

The correct recognition of the early thyroid is becoming more and more noticeable. To find an unexplainable tachycardia that is transmitted without any demonstrable change elsewhere in the body, except that it is more noticeable in girls at the menstrual period, leads one to suspect the thyroid. This tachycardia may also take place in conjunction with a slight degree of choking or swallowing sensation. Slight changes are exhibited in the blood pressure. The heart beats develop a peculiar ring that one comes to recognize but cannot describe. The presence of a fine rapid tremor is of great aid. Slight exertion is tiring to them with great relief from slight rests. I have heard some men say that you can differentiate the thyroid cardiac involvement in these cases from the other form from the fact that exercise does not greatly accentuate the tachycardia. I do not believe I can agree with this idea. The value of basal metabolism and all the other laboratory tests for the differentiation of these borderline cases, in our experience, is very questionable.

Whether or not these patients will respond to some form of medical treatment remains for the future still to work out. The value of iodine is still questionable. X-ray has been found to be a poor substitute. Radium does not give results. The most trouble in drawing conclusions in these cases has been the fact that the medical treat-

ment has been carried out upon the adolescent who very often gets better without any form of treatment whatever. There is no emergency condition in these cases, and it is better to watch them over a long period of time before you find it necessary to do anything. But once you find inroads being made upon the cardiovascular system you should act immediately upon surgical intervention.

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## NEW METHOD OF TREATMENT FOR BREAST INFECTIONS

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In reviewing the literature of the past few years, the treatment and care of breast abscesses has offered little that is new, and by the diversity of treatment offered, it can well be assumed that none is by any means satisfactory. There are as many treatments as there are authors, everything being advised from use of thermal means, i. e. heat and cold, to early incision, evaporating lotions, injection of whole blood, Bier's passive hyperemia, etc.

One thing all are agreed upon is the fact that when a breast abscess starts, while resolution is possible, the majority go on to suppuration, ending in surgical incisions and evacuation. Velpeau and Williams state that the progress of this inflammation is always rapid and the affection most always ends in suppuration.

It is the purpose of the authors to present this article on the control of breast infections by use of a manganese butyrate solution, because of the uniformly good results that have so far been observed. It has been used on a series of eight cases of beginning breast abscess, which have all terminated in spontaneous resolution. It is true that other means of control have been used as adjuvants with the butyrate method, but without the preparation named, other measures of themselves have not secured as striking results.

At the very onset of temperature and signs of beginning inflammation in the breast, the treatment is instituted. One ampule of manganese butyrate\* is given intramuscularly in the buttock, the preparation being buried deeply. This point should be stressed for it is quite irritating and painful in the tissue, and this feature is avoided if it is given by needle one and a half

to two inches in length. Locally, the breast is supported (not bound) by a hammock-like binder and moist heat is applied, this requiring frequent changing to insure a maximum of heat to the breast. The moist hot applications are continued for a period of eight hours, during which divided doses of calomel are given, followed in a few hours by a sufficient saline. At the end of this period, the heat is removed and ice bags replace the heat on the breast and are continued until all general and local signs of inflammation disappear.

The mode of operation of this treatment is outlined as follows: The manganese butyrate is claimed to increase the number of white cells in the blood to better enable the blood to combat infection. One of the writers has investigated this claim clinically and found that within a short time following injection of the preparation, the white cells were well increased above the error of count. Watson also states that manganese has a stimulating effect on the hematopoietic function, and that, owing to its stereochemical structure, has a special influence on cocci-infections. Coronedi found that a leucocytosis occurred. The heat locally serves to dilate the vessels bringing as many white cells to the inflamed part as possible. When this has occurred, cold is applied to suddenly check the process, while the eliminants given by mouth serve the individual in a detoxicating manner.

#### CLINICAL CASES

Mrs. F. V. D., aged 25 years, para-two, delivered of a female child, normal puerperium up to ninth day postpartum, when she complained of pain and tenderness, with a palpable deep hard mass in the lower inner quadrant of the left breast. Temperature 103°F. Generalized malaise and aching in all the joints of the body. Above treatment started immediately and following morning patient had normal temperature, mass in breast was smaller and less tender and her general body comfort had been increased. Ice bags continued until next morning when patient was entirely comfortable, mass was scarcely to be felt and no tenderness existed over it. Resolution proceeded uninterrupted.

Mrs. G. W. aged 24 years, primipara, delivered of female child, normal puerperium and convalescence throughout entire stay at hospital. Two weeks after being at home, she called up, stating that she thought she had the "Flu," as she had some small aching pain in her joints and had a slight temperature. The next day she called, saying that she was very ill. Upon examination a very exquisitely tender, hard mass was

found in the right breast, temperature was 102½°F., and she had genuine general distress. The manganese butyrate was given intramuscularly and the routine treatment started. The following morning her temperature was normal, her aching and tenderness gone, and the mass was very much less distinct. The following morning the mass could not be felt and the whole process subsided.

Mrs. E. C., para-3, delivered of male child, normal puerperium up to ten days postpartum, when she awakened that morning with a temperature of 100°F., general malaise, aching joints, and a hard tender mass in the left breast. Treatment was started as outlined. The next morning her temperature arose to 102°F., and her general discomfort had increased. The mass in the breast was no larger but was not improved clinically over the findings of the day previous. That day another ampule of butyrate was given and the heat continued. The following morning she was more comfortable, temperature was normal, mass smaller, and resolution proceeded.

Mrs. J. C., aged 23 years, primipara, delivered of male child, had normal puerperium up to the thirteenth day when she did not "feel comfortable" and had a temperature of 99°F. There was apparently nothing to account for this trouble and she was given a small dose of salicylates. The following morning she awakened with a temperature of 100°F., general distress far worse than the day before and had a small tender mass in the right breast. Treatment was instituted and the next morning her temperature was 99°F., discomfort better, and the mass not tender and almost gone. Resolution took place.

It is interesting to note that in two more cases, after resolution had been induced and the patient had apparently gone on to recovery in an uninterrupted fashion, each had a recurrence of a similar process in the same breast, from a week to ten days later. The recurrence came on as abruptly and with as much severity as the original process. In each case the same routine was followed and both of these infections subsided again with as much alacrity and have both remained normal since.

#### SUMMARY AND CONCLUSIONS

The authors believe that the early use of a manganese butyrate solution intramuscularly, aided by thermal means and eliminants, is a justifiable and valuable procedure in the control of breast infections. Their opinion is based on the fact that out of the number of cases they have treated by this means, all have been made to go on to resolution and not suppuration.

From a pediatric standpoint, the baby was allowed to nurse the breast uninterruptedly, even



during the acute days of the attack. This, plus the avoidance of surgical procedure, preserves the integrity of the breast's future milk supply.

30 North Michigan Avenue.

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#### STRAINS OR TWISTS OF THE KNEE\*

E. B. FOWLER, M. D.,

CHICAGO, ILL.

It is important in making a diagnosis to get as accurate a description of what has happened as possible. In nearly all strains of the knee it will be found that the knee is damaged in flexion to a certain degree.

In the cases he showed on the screen the lateral ligaments were relaxed and as the weight of the patient came down, it was thrown on the semilunar cartilage. In more instances than is generally believed the internal semilunar cartilage is badly damaged. He showed one patient who two years before slipped and fell, striking on the back. So far as she knew she did not twist the knee but shortly afterward she noticed that the knee did not feel right. Something appeared to slip in the knee but it was not painful. This went on for about five months, at the end of which time the pain became severe. She was treated for rheumatism for three months. Dr. Fowler was then called to see her. From the history it was evident that there was something wrong with the semilunar cartilage. She did not want an operation so he tried local treatment, injecting three or four drops of the tincture of iodine between the outer fold of the cartilage and the upper border of the tibia. Considerable reaction came from each injection. She can now run up stairs whereas before she walked with a limp. There is still a spot along the tip of the internal semilunar cartilage which is tender from time to time. There is reasonable doubt whether the diagnosis is right, but the best part is that the patient is reasonably comfortable.

\*Presentation of Clinical Cases before North Shore Branch Chicago Medical Society, March, 1926.

#### SOME EXPERIMENTS WITH CERTIFIED MILK. RESULTS EXCEED PASTEURIZED MILK, WITH ADDED COD LIVER OIL AND ORANGE JUICE\*

M. GERTRUDE SLAUGHTER, M. D.

CHICAGO

Since the object of these meetings is to learn from each other, and exchange experiences and knowledge of experiments, that our patients may be benefited thereby, I wish to draw your attention to some experiments with certified milk that have been made by Dr. Maynard Ladd, Helen W. Evarts and L. W. Franks, on several groups of babies under close supervision and will quote from their paper. An analysis of the results follows:

	No. of Months Observed	Weight Devel. Entrance	Weight Devel. at 1 Yr.	Gain in Percentage Devel.
Group I (61 cases):				
Grade A pasteurized				
Cod liver oil.. 0	6.9	82.1%	83.8%	1.7%
Orange juice... 0				
Group II (59 cases):				
Grade A pasteurized				
Cod liver oil.. 0	7.2	82.2%	90.1%	7.9%
Orange juice... x				
Group III (72 cases):				
Grade A pasteurized				
Cod liver oil.. x	7.0	80.2%	89.7%	9.5%
Orange juice... x				
Group IV (71 cases):				
Certified milk (raw):				
Cod liver oil.. 0	6.8	80.0%	94.0%	14.0%
Orange juice... 0				
*Group V (5 cases):				
Certified milk (raw)				
Cod liver oil.. x	6.5	81.8%	89.0%	7.2%

\*Two out of the five cases in Group V were in very uncooperative homes, with relatively poor results in general development. The other three cases showed the same gain in percentage development as the cases in Group IV, i. e., 14 per cent. The only fair inference is that cod liver oil and orange juice added to certified raw milk did not increase its nutritive properties in this small group of cases.

The different results of feeding in the first year are striking, showing as they do increasing efficiency of the feeding, as orange juice and cod liver oil are added to the pasteurized milk. The expected normal weight development on pasteurized milk was raised 9.5 per cent. by the addition of cod liver oil and orange juice. Certified raw milk, however, exceeded this result, the expected normal weight development being increased 14 per cent., and this without either cod liver oil or orange juice.

There can be no more perfect food for the preg-

\*Address Before Englewood Branch Chicago Medical Society, March, 1927.

nant women in forming a strong body for her infant, or for the nursing mother in developing this body after birth as well as for the growing child.

Calcium and phosphate is put in milk in an insoluble form and this calcium and phosphate is precipitated by pasteurization or boiling.

We no longer think of milk as so much protein, lactose, fat, ash and water, but a fluid containing also all the most important vitamins, which undergo a change by pasteurization. We know that one molecule of protein is composed of at least 18 amino-acids which also undergo change by boiling and pasteurizing.

While pasteurizing milk has decreased the death rate in babies from 300 per 1000 to 10 per 1000 a year, this form of feeding milk has increased rachitis and scurvy enormously. While the latter is again overcome by the feeding of cod liver oil and orange juice, still if through perfect hygienic care a milk can be produced which is so free from pathologic bacteria that pasteurization is unnecessary and through scientific feeding of cows is so perfect in its food value as to make a most excellent health builder for a human being, should we not accept it with an open mind?

If you will take a trip to the dairy farms you will see that the cows are kept in perfectly clean ventilated barns and an antiseptic spray is used to lay the dust. They are cleaned daily, (in some barns with a vacuum cleaner). The udders are washed with soap and water and dried with a sterile towel before each milking. The fore-milk is milked on a black cheese cloth strainer and if the slightest abnormal condition appears the milk is not used and the animal removed from the herd until tested.

The milk is immediately cooled to 45° F. and bottled with double capping and kept iced until it reaches the consumer.

Everything that touches the milk is sterilized before it is used. The butter fat content is kept down to from 3.8% to 4.5% and the bacterial count from 2000 to 3000 per c.c. and the milk is not sold after 24 hours. No violent fluctuation of the cow's rations is allowed in order not to have artificial stimulus of the mammary glands, and the foods that are given are conducive in producing a perfectly wholesome milk of uniform composition.

The men handling the milk are given periodic examination and are closely supervised in order that they may not act as carriers of disease.

Bacteriologists and veterinary inspectors appear at farms and distributing stations without warning to make their tests. With such care only the purest and best that can be produced in milk reaches the consumer and is really more safe than carelessly handled pasteurized milk gathered from many small poorly inspected farms.

If you will really use this milk with your patients for a while we are sure you will find the results most gratifying and will want to continue using it.

1146 E. 63rd Street.

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## THE SERVICE PHYSICIANS RENDER

J. LEWIS WEBB, M. D.

CHICAGO

We have all joined in the laughter when some "Humorist" has repeated the story of the garage man who rendered an itemized bill to his physician. Inwardly we feel the injustice of the thrust but in many instances no clear knowledge as to just why it hurts is developed.

It is customary to take some things for granted, and when a definition is suddenly called for it surprises us to find how hard it is to make a clear statement. When it first occurred to the writer to set down as briefly as possible just what services physicians do render the public we found that this was one of these difficult to define subjects, and some of the conclusions finally reached were so interesting that we decided to pass this information along.

The physician renders a service by bringing his patient relief from pain and mental worry. This is often important and desirable but it does not constitute as major a service as at first might appear. This is the service that is most frequently used when picturing the physician for the laity. We might point out for examples that a layman appeals to his druggist for remedies to relieve pain and he is satisfied with the druggists' efforts although they include no more than this one service. When he appeals to a physician he expects to and does receive much more. For instance the relief from pain in gastric crisis, labor, pneumonia and many other diseases is only an incidental service rendered.

Sickness renders the patient inefficient for his



usual occupation. One of the services rendered by physicians is to limit as far as possible the length of time of this inefficiency.

Associated with many illnesses is the danger of later impaired efficiency and probably one of the greatest services our profession renders the sick is to materially lessen the handicap that the patient is to bear through the future. Inasmuch as in each instance several persons are bound together this service extends even beyond the patient himself. As for instance the restoration of a cardiac case may mean that several children will be enabled to continue their schooling when the father recovers.

Associated with certain illnesses there is a danger of death. In practically all of these the mortality rate can be lessened by intelligent and proper treatment. The physician renders these patients a service when he enters their fight and maybe turns the tide so that they recover. The measure of this service may well be the difference between the maximum and the minimum mortality rates.

When the physician treats a man sick from typhoid fever, syphilis, smallpox, tuberculosis, he is rendering a service not only to the individual patient but there is incidentally as great a service rendered to society in general. The physician here stands as the guardian that fights to limit the spread of these diseases and limit the number of future victims.

Most of us travel through life as though it were a straight road through open country. Illness comes as a detour. A detour must be traveled cautiously and at the risk of losing time and maybe failure to regain the open road. We all know the value of having some one who is familiar with the nature of the country who is thoughtful enough to put up plain signs and even to act as a personal guide in the particularly trying places. In every illness the patient is traveling a detour and his physician serves as a guide familiar with the conditions and with knowledge as to the best ways of reaching the open road again. The physician then renders an important aid to patient and friends by supporting their morale.

In every instance where one person works for another there is a sacrifice of time and personal inclinations. A portion of the recompense for such services is given in consideration of this

sacrifice. It is a rule that the greater the sacrifice the greater should be the recompense.

Time and energy spent in study is one of the greatest services a physician renders his client. Maybe years before the patient even dreams that he is at all interested in the problem, the physician is busy at work studying it. Medicine is quite distinctly different in this particular from the "Old lady's remedies" and from various systems of healing that are sometimes heard of. Probably no patient would be satisfied with his attending physician if it was known that the physician had ceased to study. Probably no patient ever complained that his physician had studied too much. Finally we believe that medicine renders its greatest service in that it is a live and continuous study and differs from all the cults which are sprung full grown from the mind of their promulgator and are complete and unchangeable from their inception. With this study must go deliberation and rejection of much that is read and heard. We admit that cultists study but they limit themselves both as to breadth and as to rejection. We would also point out that all study is not from books, but consists in association with other physicians, attendance at meetings of medical societies, clinics, consultations and the experience of previous similar cases. Probably the explanation of the esteem in which certain prominent consultants are held is based upon the fact that their conversation, bearing and reputation lead us to believe they have studied widely and wisely. It is also probable that this same element of service explains why the most intelligent persons permit themselves to be charged very high fees by attendants when they know that the same man rendered the same service to some other patient the day before for no fee at all.

Society requires that those who engage in the practice of medicine shall shape their whole mode of living along different lines from those found most agreeable by most men. Compliance with this demand constitutes one of the services physicians render. Many young physicians are prevented from marrying until later than men engaged in other ways of gaining a livelihood. Married physicians are required to so shape their lives and the lives of their family that family pleasures may be interrupted at any moment a sick person demands. Society also demands that the physician's wife take part in his work at least

to the extent that it is her chief business to keep the community's doctor going and she is the channel through which they expect to get into touch with him especially in case of emergency.

The physician has the responsibility of seeing to it that certain equipment and accessories to practice are kept in readiness for the use of any one who may require them. This is comparable with the overhead of other occupations. It includes his telephones, his office, instruments, automobiles, hospitals, his heavy overcoat and many other items. These are all strictly for the benefit of society and are expenses that the physician incurs only because he is engaged in practicing medicine. Society should be taught that they must pay for these accessories if they are to be had. It is interesting to note that among those who pay very poor fees there is a lower standard of health and their physicians utilize these accessories least, while among the upper strata where better fees are paid and a better general level of health prevails these accessories are taken as a matter of course. It is also interesting to note that the considerable fees charged by certain prominent clinics are largely absorbed in these items and the remainder constitutes a very reasonable fee for the physician himself.

There has always been a host of individuals and business corporations ready to exploit the sick man. One but has to refer to the pages of any magazine, medical journal, or read the mail that floods his desk to realize that there is no effort lacking to exploit sick people. In addition we have physical culturists, mental healers and a whole group of persons who have purposely limited their education who are ready to take charge for a fee. One of the very real services a true physician renders his patient consists in shielding him from such exploitation at a time when he is unable to protect himself even if he was educated in such matters and could.

The physician devotes a certain number of minutes to the actual treatment of his patient. In this way all of his time disappears and so this constitutes another service the physician renders. However, we feel that no physician or patient would be satisfied to value service rendered strictly upon the basis of the fifteen or forty-five minutes consumed in a certain operation or consultation.

In some instances we are compelled to stand

by more or less helpless while a patient goes out into the shadows. It once seemed to me that here was a place where we rendered no service and that maybe we should wipe off the slate and make no charge. Then from personal experience we realized just how much service is rendered such a patient when the physician comes again and again and sustains morale and holds the patient's hand with a better understanding of just what suffering and doubts he is having to bear, than any other human being can. We realized the physician's wife was sitting at home waiting, we realized that the physician himself was studying just as hard as he could and he was watching for every little opening to help all he could and we realized that a real service was given even in this case that ended in death and we appreciated it so much that we hoped that another sick man or woman might be given the same comfort in the future under similar circumstances and we realized that the physician himself could not carry on unless we who received a part of this service paid him and thus from personally experiencing this service our feelings were changed.

We all agree that every patient is entitled to the service included in an examination. This may be brief or extensive according to the illness present but every physician renders a service in making examinations of his patients and his reputation in large measures rests upon the thoroughness of his routine examinations. A fact that sets medicine apart from every other type of healer consists in the fact that a medical examination is unlimited by any dogma and in any direction that seems desirable by the physician, while every other type of healer starts out with a definite determination to limit his examination.

We used to hear that a physician's chief duty was to make a diagnosis of the disease affecting his patient. We do render a very real service in using every modern and scientific means available to determine exactly what ails the patient. This is a service that no one can belittle or declare secondary to any other service, still we feel that some individuals overlook the fact that there are other elements of service a physician should render his clients.

Physicians render service by administering the appropriate treatment for the disease that afflicts their patients. This service should be the aim of



all of us and there is no justification for striving to put one form of service above another. We believe that the physician should strive to bring as many different forms of service to the aid of those who patronize him as he is able. That he can be of most benefit by limiting his service to making diagnoses, or by emphasizing treatment we very much doubt.

Physicians render the individual and society a real service by appearing in time of emergency and taking hold of the situation often while everyone else is panic stricken and by their work being the first to bring relief and restore order.

Physicians are always the leaders in educating the public in matters of public health and render a valuable service in this direction.

Physicians render service by training nurses for the benefit of future patients.

A valuable service physicians render is by developing their dexterity and efficiency. This is quite a different matter from the one of study we have already spoken of. In some instances men have built reputations upon the efficiency they developed in their work. That such dexterity is truly a service to the patients goes without further argument but we would point out here that there are some very valuable men whom we delight to honor who have never become very efficient in the details of operations or other matters pertaining to their work so that those who are so apt to worship at this shrine exclusively may well look to the development of other factors of service as well, provided they have failed to do so.

There is a second group of answers to our question that it is interesting to discuss. These are not so much services rendered as they are reasons why people pay their doctors.

Our usual statements seem to indicate that we charge for visits, operations, medicine, dressings, etc. There are a few ignorant persons who fail to read further than these statements and who actually believe that our services consist in visits and dressings.

There is a group of persons who would value our services entirely upon a basis of "Cures." They argue that a plumber, a mechanic, or a shoe repair man gets nothing until his work is satisfactorily completed. In the instances used as examples there is a possibility of taking the work to the mechanic, discussing the damage,

and estimating what must be done to restore it. There is then the possibility of disposing of the matter in either of four directions. It can be decided to reject the bid and shop elsewhere for an estimate. It can be decided to substitute new parts. It can be decided to go ahead and restore the wreck as best is possible. Last of all it is possible to junk the whole business and do nothing toward restoration. In the case of the physician there is no alternative, he must take the wreck as he finds it and undertake restoration using the parts already at hand. He is in no position to do anything else but bring to the patient the very best that his study and experience has developed and try to mend him. The reason why these comparisons do not apply to our profession is because we are compelled to do our best no matter what the outlook is and we are entitled to recompense for our trying.

We sometimes meet the patient who believes that our whole service consists in deciding which medicine to use. He often feels that our charges are unjust because maybe the druggist would have advised the same medicine and the charge would have been less. This is a hang-over from those days when physicians were supposed only to give medicines. Today our service is recognized to include so many other factors that this type of patient is becoming less common.

In some communities and among some families the calling of the physician is largely a matter of convention. We have noted that in these communities the services of the physician are largely conventional as also are his fees.

When we entered the practice we often met a type of practitioner who built up a great fear in the hearts of his clientele. They feared that something awful would happen in every instance unless this particular physician was called at once to combat the dangers. He was a brother to the minister who preached "unpardonable sin" and "Hell fire" and the same type is seen today among lawyers, politicians and in other walks of life. Happily this type of physician is becoming obsolete.

Another type of physician is possessed of a personality which in some way gathers about him a group who, lacking in purpose and determination of their own, come to lean upon him and accept his direction and leadership. It is at times surprising just how little real service these

physicians render and still how very great faith their patients have in them.

Today "salesmanship" is the cloud of smoke and pillar of fire that many believe leads to the happy land. We note among certain young physicians a tendency to develop the technic of salesmanship and "sell" their services. In proper place this is not altogether objectionable but in some instances at least the public pays for salesmanship instead of for real medical services.

Some time ago we read that physicians were paid because ours is a salvage job. We are paid according to the value of what we salvage. At the time this seemed very clever to me but as time has passed it has faded until now it does not appeal to me at all. In the first place we must throw a line to every one in distress. In the second place we render a service even when the object salvaged is worthless, and we are not only entitled to appreciation when we bring in a prominent wreck but also in those cases where our efforts fail and we are unsuccessful in saving anything. It may be wrong to place so mercenary a valuation upon our services but as a matter of fact the good samaritan was a wealthy man who had made money and he was thus able to be of assistance when the help was needed. Again we believe that the physician who really knows his work has a very real consciousness as to its value. Whether this is collected or remitted is another matter.

After thus setting down as clearly as we could just what services physicians render we found that we had reached certain interesting conclusions.

The services that a physician renders are a very personal matter and it is doubtful if they can be successfully taken over by a corporation, a clinic or by socialized medicine. If the public realizes just what service it receives it would fight hard to retain this type of service and there is only a possibility that corporation medicine will supplant the private physician because the citizens are unaware of what they will lose.

A few years ago it was common for physicians to keep very poor books and to be backward in their collections. As we look back at those days and realize just how much was unknown we are able to realize that the physicians must have had a very real doubt in his own mind as to exactly how valuable his services may have been to his patient. It speaks volumes for the honesty of

those physicians that they had just such doubts and that they were backward in forcing collections. Today we have very much more firm ground on which to stand. We know very definitely what service we are able to render and it seems that physicians are becoming better book-keepers and more insistent upon payment. We are of the opinion that many of our colleagues who are today charging fees that do not permit of them giving their clientele adequate service are doubtful as to the value of their services and we believe that they should make some self analysis and overcome their doubts after which they will be able to value their services at their true worth and charge fees that will allow them to bring to their clientele those accessories to which the rest of the public has access. Personally I have learned that when an intelligent patient asks me what he owes me, if I hesitate or manifest any doubt it immediately causes him to have a suspicion that I am a little vague as to exactly what my services actually amounted to. We find a great deal of satisfaction in having a very clear idea as to exactly what our services in each case really amount to instead of the vague going along from visit to visit as formerly.

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#### TANNIC ACID TREATMENT OF VARICOSE ULCERS

WM. D. CARRELL, M. D.,  
DECATUR, ILL.

The favorable results obtained by treating burns with tannic acid solution was the reason for extending its use, at the Wabash Employes Hospital, to raw surfaces due to other causes. Very striking results have been obtained in several cases of varicose ulcers. It has also been used with satisfaction in a case of an ulcer following the sloughing of a cauterized new growth on a hand.

In treating varicose ulcers by this method several procedures are essential. The patient is kept in bed and as long as there is any edema the leg is elevated. The ulcer must be free from infection before the use of tannic acid is begun. This is obtained by frequent antiseptic dressings for several days. A clean, granulating base gives the best results. In our cases the treatment was supplemented by daily stimulative doses of air cooled ultra-violet rays. After the ulcerated area



has been rid of infection, it and the surrounding skin are cleansed with alcohol and dried. Then, with an ordinary nasal spray, a two and one-half per cent. solution of tannic acid is sprayed on every half hour until the ulcer is well crusted over. A fair crust will be formed in ten or twelve hours. Contracture of the crust will cause frequent cracking but the fissures are readily covered by additional spraying. No dressing is necessary after the treatment is begun. The crust formed is of hardened tissue of the base of the ulcer and not of hardened secretions. After several days of this treatment there is a formation of a serous secretion under the crust but this is no indication for removal of the crust unless it becomes infected. As the epithelial margin moves centrally under the crust, the latter will become loosened and break off. Undue haste in removing the crust will tear away sections of the new epithelium. When ultra-violet ray therapy is also used, care must be taken lest the new epithelium receive too heavy a dosage.

The end results are very gratifying. The new skin is very soft, smooth, and pliable with a minimum amount of scar tissue. The healing is much more rapid than that obtained by other methods. There are no dressings to be done and the area is always open for inspection. The patient gives his own treatment, and it is administered in bed, in the home or hospital, thus obviating the necessity of any undue walking to obtain dressings. The treatment is very economical. The method is very pleasing to the patient because of the immediate disappearance of a weeping ulcer, leaving only a dry, black crust in its place.

The following is a report of the most obstinate case treated. Others with less severity healed with much more rapidity. One which was in its early stages and superficial although two inches in diameter healed in five days.

W. L., No. 10,875, white male, aged 66 years, entered the hospital on June 27, 1927. For six months he had received various methods of treatment in the out-patient dispensary for a varicose ulcer over and superior to the medial malleolus of the left leg. Several years previously he had sustained a compound fracture through this region and at admission had a resultant deformity due to poor apposition of fragments and an osteomyelitis following the injury. There also was present a chronic sinus anteriorly over the lower end of the tibia. There was moderate edema of the foot and lower

one-third of the leg and the superficial veins were very much enlarged and very tortuous. The ulcer measured three by three and one-half inches, was quite deep and surrounded for a distance of several inches by a brawny, indurated, bluish skin. The base was covered with dirty, necrotic and sloughing tissue. Ultra-violet ray therapy, antiseptic dressings and dressings with ointments were used and the area cleaned up in about ten days, leaving a sluggish appearing ulcer. On July 10 the tannic acid treatment was instituted. The crust was removed every two weeks and on August 12 the ulcer was about one-half inch in diameter. Complete healing was present one week later leaving a very pliable, smooth skin, normal in appearance and level with the surrounding skin.

Wabash Employes Hospital.

#### THE COMPOSITION OF MILK FROM DISEASED COWS

T. Swan Harding in the *Medical Journal and Record*, April 20, 1927, says:

One of the most striking things to a chemist but newly assigned to analytical work in that field is the startling precision of the cow in the matter of the composition of her blood and milk. Time after time, and under considerably varying dietetic conditions, the calcium and phosphorus, for instance, of the same animal's blood and milk will be so nearly identical in amount that the investigator could almost use the blood and milk for the purpose of titrating and standardizing the volumetric solutions he used in analysis. The amount of the aminoacid, tryptophane, in the blood of various cows is remarkably constant. It is almost as if some unseen chemist had weighed out the blood and milk constituents and had striven regularly to maintain them constant.

As a matter of fact such close regulation is precisely what takes place. The organism does make a strenuous effort to keep its fluids and secretions constant in composition regardless of the food materials we give it to work with. The blood composition thus remains remarkably constant, and the same holds true for milk. The calcium, phosphorus, iron and lactose, for instance, of the milk of the same animal in health will vary scarcely at all, regardless of the ration, so long as that ration maintains the animal in health.

True, milk proteins and fat will vary slightly with the nitrogen intake,<sup>1</sup> but the calcium and phosphorus, even in the milk of different animals, preserve a remarkable constancy. The milk of a cow averaged .000234 per cent. iron on alfalfa hay containing .0151 per cent. iron and .000246 per cent. iron on timothy hay containing only .0071 per cent. iron.<sup>2</sup> The calcium in cow's milk had been shown to remain practically stationary at .130 per cent. on feeds differing in calcium content from .256 per cent. to 2.268 per cent.<sup>3</sup> Again, a cow on grain mixtures which differed widely in phosphorus content gave milk always approximating .120 per cent. phosphorus, very closely indeed.

It seems well to digress here sufficiently to say that milk is so deficient in iron as to cause nutritional

anemia if used as the sole food of an animal after the suckling period. Young animals are, of course, born with an iron reserve; as they will show about six times as much iron as the milk upon which they are fed. But lest this reserve be too rapidly depleted their supply of iron must be looked after, while the pregnant mother needs to be particularly careful on the score of having ample iron in her diet. Moreover, feeding iron to an animal will bring no change in its milk which will prevent a young and growing animal from developing nutritional anemia if fed that milk exclusively.

Another interesting fact, and one related to the stable salt content, is that a cow's milk, blood, bile and gastric juice have the same osmotic pressure and the same freezing point. We owe this discovery largely to Van der Laan.<sup>4</sup> The maintenance of this balance calls for the most refined and delicate adjustments in view of dietetic and environmental variations, yet the correlation always remains exact.

This rigid relationship even holds under strikingly abnormal conditions. For instance, if the freezing point of the blood be decreased by an enormous direct dilution of the intestinal contents (water enemas), or if it be increased by feeding the animal large amounts of Glauber's salts, the freezing point of that animal's milk will almost immediately follow the variations in its blood freezing point and will accurately check them. This is a truly marvellous mechanism when you stop to think about it.

Finally, this relationship holds in disease, even in udder inflammations, if milk can be secured pure. The corrected freezing point for the milk of both healthy and sick cows is never sufficiently far from  $-0.55^{\circ}$  C. for the investigator to call it abnormal. The freezing point of cream is the same as that for milk, because the lactose and salts govern the value, the influence of fat and protein being negligible. Therefore, the amount of sugar and ash in milk bear a reciprocal relation.

The composition of milk in disease becomes important both because milk producers want to use variations in milk composition to enable them to recognize when an animal is diseased and when its milk should not be used for food, and because a knowledge of such changes may throw some light on the physiology of milk secretion. As a matter of fact, the chemical constituents of milk are less affected by diseases which do not specifically attack the udder than would be expected on the face of things. Whenever the effect really threatens to show decided abnormality in the milk analysis, the secretion has generally aroused suspicion already by reason of its mere appearance and therefore unlikely to pass into the market.

Since 1884 various investigators have diligently—rather more diligently than carefully, it would seem—sought to arrive at chemical tests which will enable the producer readily to identify milk from diseased cows, but the results have seldom been other than extraordinarily confusing. There are variations in the milk, of course, but these changes in chemical composition induced by a pathological condition in the cow are not sufficiently pronounced or characteristic to seem

of great value. Conclusions are further inhibited by the inconsistent character of many of the results.

Thus Zaribnicky's work<sup>5</sup> superficially appears to be very exhaustive. Yet the tables for various diseases published by this worker simply seem to demonstrate that abnormalities of fat, ash, sugar or protein content caused by a specific disease in one case are not necessarily those to appear in another case of the same disease. Worse still, many of Zaribnicky's results are quite inconsistent in themselves and defy rational interpretation. Tocher's *Variations in the Composition of Milk*<sup>6</sup> is a good monograph for comparative figures on the variations in normal milk.

Unfortunately much of this work on the composition of milk from diseased cows was not done by chemists. The tables given so often contain conflicting irreconcilable or highly improbable results that they must be regarded with extreme skepticism.

However, Koestler and Elser<sup>7</sup> have really done a careful piece of work. First they studied the milk constituents during the end of the lactation period and found that the casein, albumin, fat and chlorides increased and the lactose decreased. If the udder is free from infection such changes as these are moderate; if, however, the udder is infected the changes are pronounced. Again, when milk is taken from the four quarters separately, that from the sound quarters may be practically normal milk while that from the infected quarter is obviously abnormal.

The results of this work as a whole strongly suggest that the secreting cells of infected udders are so altered by disease that they can no longer prevent the passage of unaltered blood constituents, nor can they convert these constituents into normal milk constituents. In short, the composition of the milk from animals suffering from diseased udders tends to approach that of blood. Very striking is the reduction of lactose which may be extreme in some cases. The changes in milk drawn from diseased animals in which the udders are not infected are largely to be accounted for by a decreased secretion often due in its turn to a decreased food intake.

The most characteristic change is, therefore, that in chlorides and lactose, the former increasing and the latter decreasing. From this a coefficient may be derived which has considerable value in recognizing milk from diseased animals. The freezing point remains unchanged but its determination along with that of the chlorides will serve to differentiate diseased from watered milk. Very often, of course, an animal may suffer quite severely from disease without this condition being reflected in the milk constituents. Finally, in cases of udder inflammation, there appears to be an inability to screen out the blood constituents as well as to synthesize milk from its precursors in the blood stream.

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#### SOME INDICATIONS FOR CALCIUM THERAPY

D. O. Ashworth in *Virginia Medical Monthly*, March, 1926, says:

The daily calcium requirement for man has been estimated variously between 0.7 and 1.5 gm. Calcium is present in practically all cells and tissues. Calcium is antagonistic to magnesium and sodium, and an excess of it is depressant to most nervous and muscular functions. Only a part of the calcium intake is absorbed. Forster estimates the absorption to be about 60 per cent from meats and vegetables.

The normal calcium content of the serum, which contains practically all the calcium in the blood, is from 9 to 11 mg. per 100 c.c. This is often decreased in tetany, scurvy, rickets, jaundice, acidosis, tuberculosis and perhaps in a few other pathologic conditions.

Blum and others have explained the diuretic action of calcium chloride by its effect on retained sodium. They believe edema is due to sodium retention. Calcium provokes a loss of sodium which carries with it water. It seems that after the injection of calcium chloride, the calcium is eliminated by the bowel while the chloride is absorbed, becomes attached to the retained sodium, and passes into the urine, allowing the escape of water. Other authors have also reported the diuretic action and loss of edema following the administration of calcium chloride.

Pottenger first called attention to the value of intravenous injections of calcium chloride in the treatment of bronchial asthma and the relief of pylorospasm or enterospasm in tuberculous patients. He gives as a biological reason for its use in asthma, that asthma is due to a local vagotonia and a condition in which the neuromuscular mechanism of the bronchial system is in a state of hyper-irritability. The action of the

vagus depends upon the presence of potassium, and increased vagus action depends upon a preponderance of potassium ions as compared with calcium ions in the bronchial tissues. The action of calcium upon the cell results in the same physiological process as adrenalin, and the effect of calcium is of much longer duration and is efficient in supplementing the action of adrenalin and relieving the paroxysms for a longer time.

Walters found that 50 per cent of the cases of obstructive jaundice which died after operation succumbed from intra-abdominal hemorrhage and in most cases postoperative hemorrhage occurred when the coagulation time of the venous blood was more than 9 minutes. The blood in jaundiced patients was found to be deficient in calcium and the routine administration of 5 to 10 c.c. of 10 per cent calcium chloride intravenously greatly reduced the coagulation time of the blood and diminished toxemia with a resulting lowered mortality following operation.

Dogs in which the common duct had been tied lived longer and appeared less toxic when calcium chloride was administered intravenously than those who did not receive calcium.

King and Stuart believe that bile pigments in combination with calcium are less toxic than uncombined pigments. They consider calcium a protective mechanism against the circulating pigments of obstructive jaundice.

It appears that calcium offers the best means of preparing jaundice patients for operation. Calcium given orally in these cases is inefficient unless given in extremely large doses.

Calcium injected directly into the blood stream acts much like digitalis, in that small doses accelerate and strengthen the heart, and large doses seem to be poisonous, tending to bring the heart to a stand-still. No ill effects have been noted by those using calcium chloride intravenously. The patient first has a sensation of warmth about the face and neck, sometimes a slight tingling of the fingers and toes, or he may break out in a profuse perspiration and have slight nausea if the injection is given too rapidly. Tissue necrosis will occur if given outside the vein.

From a consideration of the foregoing facts, it seems that there is a rational basis for the intravenous or oral administration of calcium in the treatment of:

1. Bronchial asthma.
2. Hay fever.
3. Serum disease.
4. Spastic colon and spastic pylorus.
5. Relief of pain in tuberculous enteritis.
6. Nephritic edema.
7. Tetany.
8. Epilepsy.
9. Hemoglobinuria.
10. Purpura.
11. Jaundice.
12. Recurrent pleural effusion in pneumothorax.

The author cites 3 case histories exemplifying the use of calcium in bronchial asthma, tuberculosis and generalized edema.

## INSULIN—AN ADJUNCT IN THE TREATMENT OF PERSISTENT AND PERNICIOUS VOMITING OF PREGNANCY

(Sellers, Thomas B.—*New Orleans Medical and Surgical Journal*, 78:761-764, May, 1926)

In the author's experience, at least 60 per cent of women vomit at some time during pregnancy, but pernicious vomiting is comparatively rare. In 12,185 cases of pregnancy at Charity Hospital, there were only 16 cases of pernicious vomiting and 24 cases of persistent vomiting. The author believes that stress should be placed on early treatment, rather than on the type of the condition.

There are many theories of the etiology of vomiting of pregnancy. Hirst places the cause in the lack of corpus luteum, and advocates the intravenous and hypodermatic use of this substance. Williams has demonstrated a deficiency of secretions from the adrenals and suggests that the administration of adrenalin has a curative effect. Titus and Givins believe that there is a carbohydrate deficiency in pregnancy, while Thalheimer believes that the carbohydrate metabolism is changed. The author believes that all cases of persistent vomiting of pregnancy are associated with a varying degree of toxemia. The toxemia starts nausea and vomiting, associated with a slight acidosis. The disgust for food and the inability to retain it, if eaten, will cause a starvation acidosis which will naturally intensify the nausea. This constitutes a vicious cycle; therefore, one must first try to eliminate the acidosis. He believes that the importance of neurosis is exaggerated.

In the treatment of this condition, the author first studies the patient from the psychological standpoint. By gaining her confidence and interest, her fears are allayed and many difficulties removed. Malpositions of the uterus are corrected; sometimes it is necessary to do this under a light gas anesthesia. Patients are advised to take the knee-chest position for 5 to 10 minutes thrice daily. Dilatation of the cervix is condemned.

Nourishment is recommended every 2 hours, and at least 4 times daily. This should consist of solid food, rich in carbohydrates, as crackers, bread, bitter chocolate, raisins, dates, baked potatoes, stewed fruit, fresh vegetables, cereals, plenty of milk and water.

The alimentary canal must be kept open. The choice of the laxative should be left to the patient; if she has none, the author recommends milk of magnesia.

In mild cases the author has given 2 grains of sodium luminal before meals, or 1.5 grains hypodermically, with excellent results. In the more persistent cases the Murphy-drip is started, using 8 per cent glucose and 0.5 per cent sodium bicarbonate. After 1000 c.c. have been administered, 5 to 10 units of insulin are injected. If this fails, glucose is given by the duodenal tube. If this is impractical, and in the more serious cases, 1000 c.c. of 5 per cent chemically pure glucose are given, preferably by the Matas-intravenous drip. One unit of insulin is given hypodermically for

every 2 gm. of glucose. This is repeated in 6 hours. This method has been 100 per cent efficient in the author's experience.

In 1922 and 1923 there were 6 cases of pernicious vomiting in Charity Hospital. The uterus was emptied in one case; there were 4 deaths, one of which had advanced pulmonary tuberculosis. Insulin was used in one of the cases that recovered. There were 12 cases of persistent vomiting; all recovered.

In 1924 and 1925, there were 10 pernicious cases; the uterus was not emptied in any case; there were 4 deaths. Two were in coma when they were admitted to the hospital, one of these had bronchopneumonia, one had pyelitis and one toxic myocarditis. Insulin and glucose were used in 5 of the 10 cases treated.

There were 10 cases of pernicious vomiting and 17 cases of persistent vomiting of pregnancy handled at Touro Infirmary during 1924 and 1925. Eight of the cases of pernicious vomiting received glucose and insulin with satisfactory results, all of which showed a very heavy acetone reaction. Labor was induced in one case, which had received glucose by hypodermoclysis. Another case that did not receive either glucose or insulin had a spontaneous abortion.

The author recommends the simpler methods at first, resorting to the use of intravenous glucose and insulin in the more severe cases; however, one should not wait too long before using glucose and insulin.

## THE USE OF MILK INJECTIONS IN PELVIC INFLAMMATION

In the *Boston Medical and Surgical Journal* of June 3, 1926, Champlin states that the technique of the milk treatment is very simple. Ordinary whole milk is sterilized, either by boiling or by pasteurization at 80° C., for one hour on six successive days. The boiling method of sterilization is more practical. A previously boiled test tube is filled with 10 cc. of milk and then boiled for ten minutes in a water-bath in such a way that the test tube does not touch the bottom of the vessel. It is then poured into a sterile medicine glass and drawn up into a sterile syringe. By this time it is cool enough to use. The skin is prepared with iodine. Five cc. of this milk are injected into the gluteal musculature and the injections repeated at intervals of from three to five days. The stronger the reaction the longer the intervals within this limit. The amount injected is gradually increased to 10 cc., which is usually reached by the third injection. The average number of injections is six. Some cases clear up on two or three, while others require more. If a thin sharp needle is used the injections are not painful, although the bulk of the fluid injected may cause a momentary discomfort.

The method of preparing the milk varies with different men and clinics. The above-mentioned method is the one employed by Gelfhorn. Polak uses "ordinary warm unboiled hospital milk." At the Woman's Hospital, New York, Rawls uses Grade A whole milk sterilized in a water-bath for one hour at 60° C., or in



the autoclave at 15 pounds pressure for fifteen minutes. The bottles and corks are boiled for thirty minutes and sterile precautions are used in filling the containers. The sterile milk in its container is kept in the ice-box until used.

The general reaction occurs as a rule from six to eight hours after the treatment. In about half of the cases there is a chill followed by a rise in temperature. In the majority the temperature will be 100° to 102° F., but in some it will differ very little if at all from normal. A few patients will have nausea, headache, feeling of drowsiness, or a somewhat profuse perspiration. These signs of a general reaction appear only in the beginning of the treatment. After the second or third injection there is, as a rule, no further disturbance of any kind. It has been stated by several writers that the initial intensity of this general reaction seems to have a bearing upon the ultimate outcome. This does not correspond, however, to the results obtained in other clinics. The reaction does not last longer than a day. After this the patients feel markedly improved. They look better and their appetites improve. Blood examinations show that the white count reaches a marked degree of hyperleucocytosis on the day following injection, decreasing on the second and returning to normal, or count previous to injection, on the third day. Among the many thousands of injections reported only a few cases of anaphylactic shock have occurred, and Peterson remarks that in these few cases a part of the injection may accidentally have reached a vein. Great care should be taken that this does not occur. In all the literature there is no report of abscess formation at the site of the injection.

There are several absolute contraindications for milk injections. Among these are cardiac decompensation, diabetes, and alcoholism. Whether pregnancy belongs to this group is still an open question. Peterson enjoins great caution where there is a history of hypersensitiveness on the part of the patient (serum sickness, asthma, urticaria, angioneurotic edema), or of epilepsy or other grave nervous instability.

The principal field for protein therapy in gynecology is in the treatment of pelvic infections, particularly those of gonorrheal origin. Usually a marked subjective improvement follows promptly after one or two injections, and it is but rarely delayed until after the third or fourth treatment. It is this relief from pain that makes it difficult to keep patients in the hospital or home long enough to obtain corresponding objective results. When the patient remains under sufficient treatment, the steady diminution and eventual disappearance of the adnexal tumors may be observed in favorable cases.

In obstetrics protein therapy has yielded satisfactory results, according to the majority of writers. The outcome in puerperal sepsis depends largely on the power of resistance of the organism, and there is no doubt that protein injections immensely enhance this power of resistance.

All parts of the genital tract do not respond equally well to milk injections. The tubes and uterus and

possibly the bladder are favorably influenced, while the ovaries remain refractory. Exudates are brought to absorption, but adhesions are left undisturbed. Gonorrheal infections of the cervix remain unaffected by the treatment. The cervix therefore must be treated separately for the sake of preventing reinfection.

In concluding he thinks we can get no better advice than that of Peterson, who says: "Non-specific therapy requires judgment, care, attention, and bedside study on the part of the physician, perhaps in greater measure than any other therapeutic procedure. It should never be routine. To be useful it must be an individualized therapy with dosage, preparation and time of application varied to the disease, its intensity, its duration, and the resistance of the patient. So used, non-specific therapy should prove to be one of the most useful measures both in acute infectious diseases and chronic inflammatory lesions."

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#### STARS COOL AT HEAT OF 3600 DEGREES

Reno, Nev., June 23.—A star is about as cold as it can be at a temperature of 3600 degrees Fahrenheit. At least if there are any cooler stars in the heavens, a search at the Mt. Wilson Observatory in California has not found them. Drs. Paul W. Merrill and Milton L. Humason today reported this research to the Astronomical Society of the Pacific meeting here in conjunction with the Pacific Division of the American Association for the Advancement of Science.

Two great classes of stars, the giants and dwarfs, are known to astronomers. The giants form a series, depending on their spectral characteristics, revealed when their light is analyzed. This series ends abruptly with a group of red stars whose light increases and diminishes in long periods. At their maximum brightness, they are slightly above 2000 degrees Centigrade, or 3600 degrees Fahrenheit, in temperature.

Modern astronomical methods should be able to reveal still cooler stars, Dr. Merrill said, but with one doubtful exception, none have been found. There is a reason. The coolest known stars are all long period variables. Therefore, the scientists believe, there may be some undiscovered physical law that makes stars unstable as they get cooler. This would make them change in brightness at the critical temperature, and would prevent them from existing at all when still cooler.

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#### THE FAILURE OF PROHIBITION

In many sections of the country is at least halting the moral reformers of America in the agitation of further effort through statutory enactment to impose their own standards upon all men and invoke the aid of the civil authority in support of their own ethical code. An increasing number of people has begun to see that moral reform, if it is to be permanent and effective, must come from within; it cannot be imposed from without.—The Rt. Rev. Charles Fiske, D. D., *Harpers' Magazine*, May, 1926.

### BELIEVE IT OR NOT

No expertness in arithmetic is required to add insult to injury.

When it comes to drawing conclusions, all women are natural born artists.

The optimist has more fun in hoping than the pessimist does in having.

When money talks some people can't hear themselves think.

For the garage man opportunity knocks when a patron's motor does.

Women who try to act like men seldom try to act like gentlemen.

The office that seeks the man sometimes has the same difficulty Diogenes had.

The self-made man generally thinks he has achieved a work of art.

"The weaker sex" doesn't apply these late days, but it is still the speaker sex.

A reputation for wisdom may be acquired by applauding the opinions of your neighbors—*Bulletin Wayne County Medical Society*.

### THE CLIQUE

What is "The Clique"? 'Tis a body of men  
Who attend every meeting, not just now and then,  
Who don't miss a meeting unless they are sick—  
These are the men that the grouch calls "The Clique";  
Who don't make a farce of that magic word "work";  
Who believe in the motto—"Not a job will I shirk";  
Who never resort to an underhand trick,  
These are the men that some call "The Clique."  
The man who are seldom behind in their dues,  
And who from the meeting do not carry news;  
Who attend to their duties and don't seek a kick,  
These are the men that the crank calls "The Clique."  
We all should be proud of members like these—  
They can call them "The Clique" or whatever they please,

But there are some people, who always find fault.  
And most of this kind are not worth their salt.  
They like to start trouble, but seldom will stick—  
And leave all the work to be done by "The Clique."

*St. Louis Turner.*

### DIFFERENTIAL DIAGNOSIS

Physician—From this brief examination I am of the opinion that you are suffering from clergyman's sore throat.

Patient—The hell you say!

Physician (hastily)—But it is quite possible I'm wrong. I will look again.—*Everybody's.*

## Society Proceedings

### ADAMS COUNTY

The regular monthly meeting of the Adams County Medical Society was called to order by the president at 8:25 P. M., at the Quincy Elks' hall, September 12, 1927, with twenty members and two guests present.

Dr. Warren Pearce gave an interesting report of a case of pernicious anemia. The patient was shown and a large chart illustrating the marked improvement in the blood findings materially served to interest the membership. This report was discussed by Drs. Nickerson, Cohen, Knox, Williams, Wells and Jurgens and closed by Dr. Pearce. Dr. Frank Cohen read a paper on the "Clinical Laboratory and General Practice" which was discussed by Dr. M. E. Bitter. Dr. J. R. Pollock read a paper entitled, "Some Urologic Problems" which was illustrated by several roentgenograms. This was discussed by Drs. Koch, Swanberg and Williams and finally closed by Dr. Pollock.

The secretary announced that the membership was invited to a meeting of the Lee County Medical Society at Donnellson, Iowa, on September 15. The plans of the all-day meeting for November 14 were also presented. The secretary then read the minutes of the council meetings for July and September. The secretary then presented the matter of a credit and collection proposition that had been presented to the society by the Associated Credit Bureau. Dr. Cohen, chairman of the committee in regard to this matter, also explained the proposition. After a considerable discussion, Dr. Knox made a motion that the society go on record as endorsing the proposition and recommending the individual physician to join the Associated Credit Bureau in order that sufficient members be secured that the special professional department could be inaugurated in that Bureau. This was seconded and carried without a dissenting vote.

The meeting adjourned about 10:15 P. M.

HAROLD SWANBERG, M. D.,  
Secretary.

### DE KALB COUNTY

September 29, 1927, The DeKalb County Medical Society with twenty-three present were entertained for dinner at St. Mary's Hospital.

Following the dinner Dr. D. B. Penniman of Rockford gave a very interesting talk on the "Return of the General Practitioner." The three causes of death are violence, infection and poisons. Dr. Penniman told how essential it was to have a doctor handy to stop a bleeding artery after violence and to empty the stomach after the swallowing of poisons. The Medical profession has made great strides in the combating of infections so that today there is more time for preventive medicine and for surgery. The doctors have whipped malaria, rabies, tetanus, typhoid, fever, yellow fever, smallpox, diphtheria, cholera infantum, dysentery, and cholera. Scarlet fever is about to capitulate. Tuberculosis is yielding ground but we still have a big battle on with infantile paralysis and cancer. There has been great romance in medicine because the doctor is ever performing the deeds of which heroes are made.

It is the physician's job to protect as well as cure.



We should keep advising our people of the necessity to stay fortified against smallpox by vaccination.

Dr. Penniman thinks all physicians should take the time from their practice to take their places in church and affairs of the community.

Dr. L. J. Petritz reported a case of volvulus of the mesentery which was operated on recently at the Glidden Hospital. This is a very unusual condition and unless early operation is performed the patient's life is lost. In this case a young mother has been saved for her family.

A vote of thanks was given Father J. A. Solon and St. Mary's Hospital for their royal entertainment. Father Solon replied to this by inviting us to come again.

CLIFFORD E. SMITH, Secretary.

### GREENE COUNTY

The Greene County Medical Society held its regular quarterly meeting in White Hall, Friday, Sept. 9.

In the absence of the president the meeting was called to order by Vice-President Dr. N. J. Bucklin. After disposing of some matters of routine business a communication from the Lay Educational Committee of our State Society relative to the publication of health articles in our county papers was read and discussed. It was decided to accept the suggestion of the committee and furnish articles to such papers as are interested in publishing them.

A communication from the Morgan County Medical Society, inviting the Greene County Society to join them in a special meeting with the Troudeau Society on Nov. 10 was read and the invitation accepted.

The Society then adjourned for dinner at Hotel Stocks at which the dentists and members of the Ministerial Association of our city were our guests.

The scientific session was held in Whiteside Park, Dr. Baldwin presiding. Dr. N. J. Bucklin read a carefully prepared paper on "Anemia" which led to a very general discussion of the subject. The dietetic treatment of this disease was carefully stressed and various formulae discussed.

Dr. Ellsworth Black, president of the Morgan County Medical Society, read a very instructive paper on "Better Surgical Risks." This paper stressed the importance of careful preparation of the surgical case in the matter of proper diet, proper preoperative treatment, and careful weighing of the results of laboratory tests.

Dr. Carl E. Black opened the discussion of this paper and a general discussion followed.

Dr. Howard Burns gave us a very practical talk on "Methods of Procedure in Our Daily Routine of Work."

Fourteen members and nine visitors were present. Our December meeting will be held in Roodhouse, Friday, Dec. 9.

WM. H. GARRISON,  
Secretary.

### PIKE COUNTY

The July meeting was held at Pleasant Hill the 28th. After a sumptuous chicken dinner, served by the ladies of the Baptist church in the beautiful and delightfully cool basement of the church, and in the absence of President Berry, the meeting was called to order by Vice-President W. E. Shastid. The usual routine business was transacted, and the program opened with a paper by Dr. E. K. Lockwood of Springfield on "Our Experience With Gall Bladders."

The speaker called attention to the large number of cases of chronic stomach troubles, especially those that are relieved by alkaline treatment, that are cured by operative measures directed to the gall bladder. He illustrated his address with many skiagrams. This paper was ably discussed by Drs. Andrae, Goodman, Thurmon, Shastid and Zelle.

Dr. O. L. Zelle of Springfield, then gave a paper on "Block Anesthesia, with Special Reference to Caudal and Trans-Sacral Block."

This paper was illustrated with many lantern slides. The author insisted repeatedly upon the necessity of accurate anatomical knowledge for success in using block anesthesia.

He referred to the advantage of it over "spinal anesthesia" in that only the region of operation is anesthetized.

He prefers the French drug, Neocane for absolute purity, and the French made syringe for absolute accuracy, and also the French nickeloid needles, which never break, but may be bent to conform to any required direction.

A vote of thanks was tendered our hosts, Drs. Goodman and Wells for their royal entertainment, and to Drs. Lockwood and Zelle for the excellent program.

F. N. WELLS, Secretary.

### Marriages

LEO J. HAND, Chicago, to Miss Anna Mary Crippen of Omaha, recently.

LESTER P. HULICK, Shelbyville, to Miss Mildred Bowman of Sikeston, Mo., recently.

CARL MILO RYLANDER, Altona, Ill., to Miss Melna C. Meyers of St. Louis, at Jerseyville, Ill., July 23.

BERNARD WEBER, Olney, Ill., to Miss Louise Ghanoweth of Taneytown, Md., July 1.

### Personals

Dr. Robert W. Edwards has resigned as health officer of La Grange.

Dr. George W. Crile, Cleveland, addressed the

Vermilion County Medical Society, Danville, September 6, on goiter.

Dr. Vincent J. O'Connor was recently elected president of the Chicago Urological Society; Dr. John P. O'Neil, vice president, and Dr. Russell D. Herrold, secretary-treasurer.

Dr. John S. Coulter addressed the Chicago Society of Industrial Medicine and Surgery, October 3, Great Northern Hotel, on "Practical Consideration of Physical Therapy in Industrial Practice."

Dr. Harry F. Wilkinson has been appointed assistant professor in the department of surgery, in charge of work in otolaryngology at the medical school of the University of Chicago; Dr. Wilkinson has been a fellow in otolaryngology at the Mayo Clinic for about three years.

Dr. George W. Morrow, assistant managing officer, East Moline State Hospital for six years, was transferred to a similar position at the Kankakee State Hospital, September 1; Dr. Morrow was the guest of honor at a reception previous to his departure for Kankakee. Dr. Harry E. Marselus of Lincoln was appointed to the position at East Moline vacated by Dr. Morrow.

Dr. N. S. Johnson, Sheffield, has been appointed local surgeon for the Rock Island Railroad Company, vice Dr. J. R. Marshall, deceased.

Dr. Edwin P. McLean of Maroa has removed to Decatur and will take the office and practice of the late Dr. A. J. Hedgcock.

Dr. B. V. McClanahan of Galesburg spoke before the Teachers Institute at the Peoria High School, September 17, under the auspices of the Educational Department of the Illinois Medical Society, on the subject, "Health as a Business Asset." He also addressed the regular monthly meeting of the Hedgepath Parent-Teachers Association, September 30, on the subject, "What to Do Until the Doctor Comes."

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### News Notes

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—The hospital begun some years ago at the corner of Fifty-seventh and Wood streets, Chicago, is now being completed by the Southwest General Hospital Association; the capacity will be sixty-eight beds.

—Dr. Gordon B. New, Mayo Clinic, Rochester,

Minn., addressed the Chicago Dental Society, September 20, at the Medical and Dental Arts Building, 185 North Wabash Avenue, on "Tumors of the Mouth and Jaw." A dinner was given in honor of Dr. New preceding the meeting to which members of the Chicago Medical Society were invited.

—A six story hospital is under construction at Eggleston Avenue and Seventy-eighth Place, Auburn Park, which will have a capacity of 110 beds and cost about \$325,000, exclusive of equipment. Dr. Samuel A. Waterman is said to be the president of the corporation, and Dr. Charles K. Barnes, secretary. The present two story building of thirty beds will be used as the nurses' home.

—The construction of the first unit of Holy Cross Hospital has been undertaken by the Lithuanian Roman Catholic Charities of America on a site at Sixty-eighth Street and South California Avenue, Chicago. This unit will contain 100 beds, and is so arranged that on completion of the entire hospital it can be used as a nurses' home. The hospital is planned as a memorial to Lithuanian immigrants to America.

—The Missionary Workers of the Sacred Heart, a Catholic order of sisters, acquired Sulphur Lake Springs, 9 miles north of Ottawa on the Fox River, and changed its name to St. Joseph's Health Resort, to be operated for the public throughout the year regardless of class or creed. The dedicatory ceremonies were conducted September 5, to which the general public was invited. The property includes numerous cottages and a large hotel.

—The sixth annual meeting of the American College of Physical Therapy will be at the Hotel Sherman, Chicago, October 31-November 5, under the presidency of Dr. Disraeli W. Kobak, Chicago. The president-elect, Dr. James C. Elsom, Madison, Wis., will preside at the annual banquet, which will be the main social event of the congress; among other speakers at the banquet will be Dr. William B. Snow, New York, on "Early Pioneers in Physical Therapy," and Dr. James H. Hutton, Chicago, "Attitude of the County Medical Society Toward the Promotion of Scientific Physical Therapy."

—Judge McCoy, in county court at Decatur, August 5, ruled that the special tax for the



maintenance of tuberculosis work was invalid on account of the failure of the county board of supervisors to follow the law in submitting the proposal to the voters in 1924. By the authority of this election, the tax was raised in excess of the limit which the county may assess. The tuberculosis tax has been the means of support of the county sanatorium, and last year amounted to about \$77,000. The authority for the tax, which has been collected since 1921, expired in five years, and the election, which has been declared invalid, was held to renew the authority. The decision, if sustained in higher courts, is of great local importance.

—There were 3,038 cases of diphtheria reported in Illinois the first half of this year, a figure 36 per cent. greater than for the same period in 1926, and the greatest incidence reported since the first half of any year since 1924. There appears to be a generally increased prevalence rather than local outbreaks or sporadic epidemics. The state department of health states that reports from all over the United States show a similar situation throughout the country. The department warns that children about to enter school for the first time this fall should be immunized against diphtheria, as more than half the deaths from this disease occurred among children under 7 years of age. Usually, the upward trend in the number of cases becomes noticeable about the middle of September.

—A dinner in honor of Sir Thomas Oliver, Newcastle-upon-Thyne, England, was given at the University Club, September 2. Among those present were Drs. Frank L. Rector, Chicago, editor of the *Nation's Health*; Thomas R. Crowder of the Pullman Company; John M. Dodson, secretary, bureau of public health, American Medical Association; William H. Bohart, Frank E. Pierce, William A. Evans; Franklin H. Martin of the American College of Surgeons; G. Henry Mundt, president, Illinois Medical Society; Isaac D. Rawlings, Springfield, state health officer; Oscar Dowling, New Orleans, Louisiana state health officer, and Frederick L. Hoffman of the Prudential Life Insurance Company. Sir Thomas, who is in this country to study the progress made in industrial medicine, gave a brief account of his work in the prevention of lead and phosphorus poisoning and of his study of cancer of the groin among cotton spinners.

## Deaths

JESSE A. BALLOU, Rushville, Ill.; University of Illinois College of Medicine, Chicago, 1905; member of the Illinois State Medical Society; on the staff of the Culbertson Hospital; aged 49; died, September 1, of bronchopneumonia.

GEORGE JOSEPH BEHRENDT, Chicago, Chicago College of Medicine and Surgery, 1908; aged 43; died, May 31, of acute dilatation of the stomach.

EDWARD A. GLASGOW, Mulberry Grove, Ill.; Marion-Sims College of Medicine, St. Louis, 1899; a Fellow, A. M. A.; past president of the Bond County Medical Society; aged 57; hanged himself, August 17.

BURTON W. HENDERSON, Chicago; Hahnemann Medical College and Hospital, Chicago, 1894; member of the Illinois State Medical Society; formerly associate professor of clinical medicine at his alma mater; on the staff of the Chicago Memorial Hospital; aged 60; died, September 11, of uremia and nephritis.

HANNAH G. HUTCHINS, Chicago; Hahnemann Medical College and Hospital, Chicago, 1883; aged 84; died, August 20, of arteriosclerosis.

THOMAS A. NOBLE, Harvey, Ill.; University of Toronto Faculty of Medicine, Toronto, Ont., Canada, 1889; a Fellow, A. M. A.; chief of staff at the Ingalls Memorial Hospital; aged 68; died, September 12, of heart disease.

G. GILBERT PRAETORIUS, Chicago; University of Pennsylvania School of Medicine, Philadelphia, 1883; member of the Illinois State Medical Society; aged 66; died, September 1, of chronic myocarditis and nephritis.

HENRY M. PENRICE, Chicago; University of Illinois College of Medicine, Chicago, 1903; aged 63; died, August 18, of chronic myocarditis and arteriosclerosis.

PAUL MORSE PATTERSON, Chicago; University of Michigan Medical School, Ann Arbor, 1906; aged 48; was killed in an automobile accident, August 15.

BERRY A. ROYALL, Villa Ridge, Ill. (licensed, Illinois, 1878); aged 78; died, July 30, at Hickman, Ky., of arteriosclerosis.

GUSTAV SCHIRMER, Chicago; University of Erlangen, Germany, 1882; aged 71; died, September 11, of cerebral thrombosis.

JOSEPH H. SIMMONS, St. Louis; College of Physicians and Surgeons, Keokuk, Iowa, 1884; also a druggist; aged 67; was found dead, July 29, at Vienna, Ill., of phenol (carbolic acid) poisoning.

HENRY GREEN WILDMAN, Winnetka, Ill.; Medical Department of Columbia College, New York, 1880; member of the Illinois State Medical Society; aged 69; died, August 26, at a hospital in Evanston, following an operation.

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THE N. Y. ACADEMY  
OF MEDICINE  
NOV 17 1927

# Illinois Medical Journal

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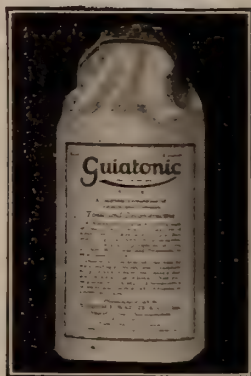
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# ILLINOIS MEDICAL JOURNAL

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THE ILLINOIS STATE MEDICAL SOCIETY

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No. 5

## ILLINOIS MEDICAL JOURNAL

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## Editorial

### WE SHOULD NOT LAY STRESS ON PARALYSIS IN POLIOMYELITIS.

There has been considerable increase in the number of cases over the country of poliomyelitis in recent months. Many doctors are under the impression that we do not have poliomyelitis without paralysis. The reverse is probably true and that the vast number of cases of anterior poliomyelitis never reached the paralytic stage.

Because of the prevalence of the disease at present it may not be amiss to urge that physicians should be on the watch out for acute poliomyelitis.

At present this is recognized as an acute, infectious, systemic disease, with or without paralysis.

Though it is believed that insects play an important part in transmission of poliomyelitis, practically a clean bill of health is granted farm animals. It is, however, capable of being carried by human beings, though less infectious than scarlet fever and diphtheria, and isolation is a large factor in its control. Paralysis, although not characteristic, may be present. Only in a minimum of cases where paralysis exists at time of diagnosis is there a subsequent increase of the paralytic state.

Refreshing the memory as to symptoms and tendencies it may be stated here in a general fashion that poliomyelitis has all the earmarks of an acute infection but no standardized or routine points of attack. Poliomyelitis should never for an instant be forgotten when an acute infection is present. This disease presents many faces to the physician. Inflammation and involvements may be slight, individual or combined, according to the section or the entirety of the cord that is attacked. For example, several nuclei, a part of one nucleus or one entire anterior horn may be affected. Also to be looked for are meningeal symptoms, simulations of Landry's paralysis, or bulbar paralysis, or gastro-intestinal



manifestations. In diagnosis it is well to remember the importance of deep reflexes; the painful effect of palpation of the muscles or of tenderness on stretching and the almost constant evidence of leucopenia, at the outset. If there is any doubt at all spinal puncture should be made.

The greatest possible benefit in this disease is

To those members of the state society who were unable to attend the 1927 state convention a reproduction of the certificate may be of interest.

Of the seventy-six past presidents of the society nineteen are living. Of this number six were unable to go to Moline and their certificates



To all to whom these Presents may come, Greeting:

*This is to Certify that \_\_\_\_\_ has held the office of President of the Illinois State Medical Society From \_\_\_\_\_ to \_\_\_\_\_ during which period he performed the duties of that office efficiently, faithfully and impartially and with entire satisfaction to the members of this Society. Therefore, as a recognition of his efficient and loyal service to this Society and his devotion to the advancement of medical science and the art of medical practice, we, the officers of this Society, pursuant to a vote of its members, hereby confer upon him this.*

### **Certificate of Appreciation**

*with all the Honor and Benefits thereto appertaining.*

*In Witness Whereof our signatures are hereunto affixed this \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_*

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\_\_\_\_\_  
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Chairman of the Council

brought about by the early recognition and complete isolation in order to prevent the spread of the disease to others.

### **HONORING PAST PRESIDENTS ILLINOIS STATE MEDICAL SOCIETY**

Past presidents of the Illinois State Medical Society have now among their documentary credentials a certificate of their service. This fortuitous custom was inaugurated at the 1927 meeting in Moline, Ill. During the ceremonies of "Past President's night" the innovation became a portion of the ritual of each convention.

were mailed. Presentation in person was made to the thirteen there, by Dr. W. D. Chapman, chairman of the council of the state society. The idea of the certificates came from Dr. Harold M. Camp, secretary of the Illinois State Medical Society.

### **THE PRINCIPLE THAT SUSTAINS COMPULSORY VACCINATION IS BROAD ENOUGH TO COVER CUTTING THE FALLOPIAN TUBES.**

The question of sterilization of the feeble-minded is always with us. In May, 1927, the

United States Supreme Court handed down a decision upholding the decision of the Virginia Court of Appeals and a local circuit court in their decision approving the order to perform a salpingectomy on a feeble-minded woman who was the daughter of a feeble-minded mother and the mother of a feeble-minded illegitimate child. Mr. Justice Holmes read the opinion. We quote from the opinion as follows: "We have seen more than once that the public welfare may call upon the best citizens for their lives. It would be strange if it could not call upon those who already sap the strength of the state for these lesser sacrifices, often not felt to be such by those concerned, in order to prevent our being swamped with incompetents. It is better for all the world if, instead of waiting to execute degenerate offspring for crime or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind. The principle that sustains compulsory vaccination is broad enough to cover cutting the fallopian tubes."

**MEDICAL SERVICE WILL BE DESTROYED BY LAY-SPONSORED LAWS. ACKNOWLEDGEMENT OF THIS AND MEDICINE'S DIAGNOSIS OF LEGAL SITUATION JUSTIFIED AT LAST IN EYES OF BUSINESS MEN.**

**THOSE 93,000 NEW LAWS PLACED ON STATUTE BOOKS IN YEAR 1926 SUFFOCATING DOSE FOR SANE MEN TO SWALLOW**

That the redundancy of laws now breaking the backs of the statute books of the land are a general affliction is becoming evident to thousands who have supposed that much of the protest against bureaucracy came from those caught in the net of class legislation. The medical profession has known this for a long time, just as from the first medicine has been a continuous and heavy sufferer from fool legislation.

"Buck-passing" has become an epidemic disease among Americans. Instead of following out the democratic principle of conservation of personal rights and scientific accuracy through due respect of the rights of others and of the wisdom of scientists the country seems to have gone mad on the path of conservation of personal rights at the expense of those of everybody else, and the indulgence of nose-thumbing at science. "Make a law" stands out as the easiest way of

getting maximum results with minimum effort.

As a matter of fact this indiscriminate making of laws by everybody everywhere is about as efficacious a panacea as most panaceas are.

Black magic of the Middle Ages appears to be hoped for today by the cabalistic writings upon the law books of the land. "Cabalistic" is right. There are now so many laws, each, and all capable of the myriad interpretations with which a savant or a knave is capable of twisting from legal phraseology, that few sane folk, if any, can possibly tell "what it is all about."

For example, during the year 1926 no less than 93,000 new laws were introduced into the country. The principle of democracy is the fewest laws for the most persons, with the idea that self-respect will be the dominant governing factor.

It may be true that the number of morons is increasing daily. If the laws that gall and chafe were made by the superior portion of the population perhaps these laws would be corrective. Unfortunately this is not the case. What proportion of the "superior portion" sits in state and makes the laws? Perhaps "there ought to be a law" to tell.

Merle Thorpe, editor of *The Nation's Business*, dealt with this situation in a recent issue of *Collier's Magazine*:

"National addiction to patent medicines for bodily ills, perhaps makes it but natural that as a people we should have a panacea for all economic ills also: it is, 'Please pass a law.' We expect the Federal Government to perform economic miracles (and to a lesser extent) the state capitols seem to dazzle with supernatural powers; we invest our lawmakers with haloes, 'supermen' who with a mere waving of hands can fix anything and everything." This is all quite in line with what the editor of the *ILLINOIS MEDICAL JOURNAL* has been fighting for during the last twenty years.

Further, Mr. Thorpe states: "The President of the United States has said that 'laws are discovered, not made.' We agree to this in every science except economics. We go to the laboratory to discover the natural laws affecting biology, chemistry and physics. But if it is an economic question, we simply—'make a law.' There are a lot of laymen who think making a law will cure the sick and raise the dead.

"Things wouldn't be so bad if we occasionally



*repealed* a law! But laws are seldom repealed in the United States. I know of only one, and that was repealed by a state legislature last February—a law which was passed twenty years ago providing that anyone driving a horseless carriage must stop when approaching a village and telephone ahead so that people could get ready to hold their horses.

"It has been suggested that one way out of our present dilemma would be to pass a law requiring that every new piece of legislation carry with it the repeal of some other law. A good idea, but you will note that the panacea is, as usual, 'There ought to be a law!'

"Which points out not the least of the reasons why we suffer from a plague of laws: as a people we are too inclined to joke about our own political and business habits and shortcomings, too ready to settle grave issue offhand. We can't see beyond your own economic noses.

"After twenty years' contact with state legislatures and Washington, I am prepared to say that the desire for more laws does not originate with the legislators themselves. *The pressure comes from us, their constituents.*

"Many a congressman introduces a bill to satisfy the well-meaning if ill-advised wishes of the men and women to whom he was responsible.

"I am starting a new organization. It will have no by-laws, no constitution, no officers, no meetings, no dues, no annual conventions. It will be 'Fewer Laws Club.'

"We are all agreed that there are too many laws, but I'll venture that each reader of Collier's knows at least one law which should be passed.

"The women of the land, now that they have been given the suffrage, have not made matters any better. In fact, their enthusiasm seems to have added fuel to the flames. Governor McMullen of Nebraska told me the other day of a Nebraska boy who left the old home town twenty years ago to make his fortune in the East. He returned this summer. He went to a church social. His memory recalled the days when the men lined up on one side of the church and the women on the other. The men talked politics, while the women discussed the canning of fruits.

"The men still lined up on one side of the church and the women on the other. But he heard the women talking of passing laws, of amending the Constitution; while from the

other side of the church he heard from one of the men something like this:

"Remember now! You have got to boil it three hours, and don't forget the yeast!"

## NEXT ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY

MAY 8 TO MAY 11, 1928

NEW STEVENS HOTEL

CHICAGO

The seventy-eighth annual meeting of the Illinois State Medical Society will be held in Chicago, May 8 to 11, 1928, in the new Stevens Hotel, which is the largest hotel in the world. On account of the character of the conference next year, it is thought advisable to extend the time to four days instead of three days.

By advancing the date one week, to May 8, there will elapse one month before the meeting of the American Medical Association in Minneapolis.

As a combination clinical and scientific session, clinics will be held at the new medical units of the University of Chicago, of Northwestern University, and of the University of Illinois, and at the Cook County Hospital. All scientific and general programs will be at the Stevens Hotel.

Exhibits will be at the hotel, including many scientific displays and demonstrations, as attractive features.

Dr. Nathan S. Davis III has been selected as general chairman of the committee on arrangements. He has a group of men on various committees who are laboring to secure unusual results. Invitations will be sent to the physicians of states adjoining Illinois, such as Michigan, Wisconsin, Iowa, Missouri and Indiana, all adjacent to Illinois, and this insures a record-breaking attendance. General hospital clinics will be arranged for both Monday, May 7 and Saturday, May 12, and during the session for a full week of clinics.

Officers of the five sections are anxious to get in touch immediately with members from both the Chicago Medical Society and the downstate societies who desire to read papers at the meeting.

Section Officers for the Convention are:  
*Medicine:*

J. L. Sherrick, Chairman, Monmouth, Illinois.

N. S. Davis III, Secretary, 952 North Michigan Blvd., Chicago.

*Surgery:*

J. R. Harger, Chairman, 25 East Washington St., Chicago.

Earl D. Wise, Secretary, Champaign, Illinois.

*Eye, Ear, Nose and Throat:*

C. F. Yerger, Chairman, 4458 West Madison Street, Chicago.

Walter Stevenson, Secretary, Quincy, Illinois.

*Public Health and Hygiene:*

A. A. Crooks, Chairman, Peoria, Illinois.

E. W. Mosley, Secretary, 3325 Lincoln Avenue, Chicago.

*Radiology:*

Harold Swanberg, Chairman, Quincy, Illinois.

E. G. C. Williams, Secretary, Danville.

Early issues of the JOURNAL will detail the program for what will undoubtedly be a record maker in the history of State Society meetings.

## A FEW FACTS ABOUT THE STEVENS HOTEL

The Stevens Hotel, which will be convention headquarters of the Illinois State Medical Society, May 7-11, 1928, is the world's largest and greatest hotel, occupying the entire block on Michigan Boulevard between Seventh and Eighth Streets; the hotel overlooks Grant Park and Lake Michigan, representing an investment of \$27,000,000 in ground, structures and surroundings. There are 3,000 rooms each with bath, circulating ice water, closet, outside light and air.

The Stevens rises twenty-five stories above the ground with a four-story tower above and five basement levels below. Four entire floors are given over to public use and service. These contain dining rooms, restaurants, lobbies, lounge rooms, ball rooms and shops. The Stevens claims the largest and most beautiful ball room in the world, equipped with motion picture screen and every facility for dinners, meetings, dances and spectacles, including a theatrical dimmer board by which every conceivable lighting effect with use of colors can be produced. There are seven ball rooms in The Stevens Hotel and nine private dining rooms with seating capacity from twenty-five to one hundred in each. There are one hundred rooms on the

fourth floor which can be used for committee meetings or displays and which range in seating capacity from twenty-five to one hundred fifty.

During the first month of its operation a banquet was served to 4,700 people at one seating in record time. The power plant of The Stevens is the largest privately owned utility of its kind in the world and is equipped with generators capable of producing 3,200 electrical horsepower—sufficient for the industrial and domestic needs of a community of 60,000 people.

The Stevens has the world's largest check room with accommodations for 3,200 guests in addition to restaurant and various floor check rooms which furnish accommodations for several thousand more.

The house surgeon has a completely equipped two-ward hospital and operating room.

The Stevens has its own ice cream factory, its own laundries, its own candy factory, printing establishment and power plant. And also, it has a circulating library of 25,000 volumes.

The site alone cost \$6,000,000.

The carpets cost \$600,000.

Sixty carloads of mattresses are used in the hotel and four carloads of glassware.

The silverware filled three freight cars, the hollowware alone weighing 43,576 pounds.

A 101-foot reservoir stores water for bathing and drinking purposes.

From the roof garden promenade one can see the cliffs and dunes of Michigan.

The lounge is carpeted with the three largest Saruk rugs in all the world, and is furnished at a cost of more than \$200,000.

The grand ballroom can seat 4,000 guests.

An army of 2,500 employes is necessary to keep up the service.

Fourteen passenger elevators will carry an aggregate of 224 guests at a time.

The telephone switchboard system is capable of receiving and transmitting calls sufficient for a city of 15,000.

The refrigerating plant has a capacity of 300 tons of ice daily.

The ice cream factory can produce 120 gallons of ice cream an hour, while the candy factory can satisfy the appetites of 15,000 small boys.

The laundry, operated on a weekly schedule, could care for the wants of a community of 60,000 people.



## PROGRESS OF EDUCATIONAL COMMITTEE

The Educational Committee are preparing an exhibit of health posters which can be sent out to organizations for use in connection with special health programs. The posters have been secured through the courtesy of various organizations in the country and represent the best health material available, for display purposes.

News articles pertaining to health and the school child have been released to one paper in each county to be used November 7, which day was designated as "Health Day" during American Education Week. The services of the Speakers' Bureau have also been offered to the superintendents of the Chicago high schools for this day.

Calls for speakers are increasing. A series of eight lectures on topics concerning health have been arranged for one men's organization in Chicago. These lectures began October 25 and will continue until the first of December.

The office of the Educational Committee has taken care of the news articles for three important medical meetings in October and November.

## ETHICS OF MEDICAL NEWSPAPER WRITING

Dr. Charles A. L. Reed was president of the American Medical Association at the time of its reorganization. He, later, was on the committee that formulated its "Principles of Ethics." He is now devoting himself exclusively to literary work, his last book, "The First Estate," just from the Stratford press, being a novel with a scientific motif. But, in addition to writing books, he writes an article on health and success every day for the King Features Syndicate, New York, which, in turn, furnishes the series for simultaneous publication in many newspapers of the United States, Canada, and foreign countries. Dr. Reed's views on the ethics involved in his newspaper work are, therefore, of interest. In a recent interview he said:

"No, I have not 'retired.' I am now practicing 'educational medicine.' I am 'carrying the message to the masses,' as it were. It is true my articles are having a phenomenal run. This, in large part, is due to the influence of the medical profession. You see, I had long wanted to do

just what I am now doing. The opportunity came to me unexpected. I saw, however, that newspaper writing could not be ethically combined with a fee-earning practice. Each was entirely ethical within itself but the two wouldn't mix. The combination spelled 'advertising' with the worst form of unfair competition. My practice at the time was distinctly national. But, without hesitation, I announced to the entire medical profession that I would accept no more patients—and I haven't. Now, in spite of the fact that I have never published my home address in my articles—another fine ethical point—I do receive through my many newspaper offices literally hundreds of letters asking for treatment. In no single instance have I ever given it. The experience, however, shows what I mean by 'unfair competition.' On the other hand I have used my articles, now numbering well on to two thousand, to create a higher appreciation of the medical profession by the general public—a better understanding between the two. This is a thing that I have been and am doing much more effectively, so far as publicity methods are concerned, than the profession in any locality can do in its own behalf. It is doubtless in recognition of this fact that, as I know to have been true in many instances, my professional colleagues have asked editors to put on my feature and have thus helped to extend my circulation and influence."

## EXCESSIVE DRUG ADDICTION OF PANEL PATIENTS IN ENGLAND—ANOTHER CURSE DEVELOPED OUT OF SOCIALIZED MEDICINE

The A. M. A. Paris correspondent, under date of Sept. 6, 1927, sends the following which is highly instructive as showing another of the previous known forty-seven varieties of this socialistic act:

### EXCESSIVE DRUG ADDICTION OF PANEL PATIENTS

It is estimated that panel prescriptions to the number of 47 million are dispensed annually and that the drugs and appliances cost \$10,000,000. The regulations having failed to check this colossal expenditure, the minister of health has, evidently in despair, made an extraordinary agreement with the pharmacists. They will "collectively accept liability for the provision of all

the drugs and appliances prescribed for insured persons and in return receive the maximum amount available for the purpose." The agreement is to run for six years, subject to the right of the pharmacists to ask for revision in certain contingencies. The minister has undertaken that the annual sum available shall not be less than 66 cents for each insured person. He has also undertaken to adopt every practical means with a view to checking unnecessary prescribing. Once more the inevitable weakness of socialism is shown. Those concerned in the expenditure of this colossal sum on drugs have no effective interest in economy. The insured can be drugged to their hearts' content without expending a cent, and the English working classes have a pathetic faith in drugs. The late Sir Frederick Treves said that "the craving for bottles of medicine in this country was only second to the craving for drink." The only check on this craving is the refusal of the physicians to prescribe. But they have no interest in economy beyond the small one of being taxpayers, which is much more than counterbalanced by the desire to avoid unpopularity and loss by the transference of the patients to other lists. But the new system, devised to avoid one evil, introduces others and apparently greater ones. The pharmacists gamble on the amount of prescribing. They get the last cent of the available sum. If overpaid, they pocket the gain. If underpaid or even if they bother the government by putting up a case, they may get more. "Heads I win, tails you lose." Moreover, as the *British Medical Journal* points out, it is to the financial advantage of pharmacists that the quantity and quality of drugs supplied shall be as small and as inferior as possible and there may be a temptation for the ministry to bring undue pressure to bear on panel physicians to restrain the amount and nature of their prescribing. Curiously, a fact which seems to have been forgotten, it was this very objection that physicians (who in this country usually dispense their own medicines) would economize at the expense of patients that causes Mr. Lloyd George in drafting the insurance act to take dispensing out of the physicians' hands and hand it over to the pharmacists. So much for the attempt of the most astute politician of the day to avoid, but only in one small respect, the evils of his socialistic act.

DR. CHARLES D. CENTER WRITES A BOOK SAYING PART OF WHAT SHOULD BE SAID ABOUT "THINGS USUALLY LEFT UNSAID"

A SUBJECTIVE BROCHURE ABOUT THE GREAT WAR AND THE PERSONAL EXPERIENCES OF COL. CHARLES D. CENTER, M.D.

Food for thought and a fillip of inspiration are contained in a curiously apt human document treating of the Great War and written by Charles D. Center, M. D., F. A. C. S., of Quincy, Ill.

Dr. Center saw service in the thick of the fight in which the famous Thirty-third Division helped to win the war." As Colonel in command of the 130th Infantry Regiment, and later commanding trains and military police, Dr. Center's duties varied picturesquely and pertinently from keeping up the morale of his men to seeing that the roads were clear for transport. He has given a lucid,—almost surgically clean,—account of his personal work in the conflict from Quincy to Luxemburg via Texas and the Meuse and the mud.

This book might well be called "A slice of the life of a patriot and citizen of America." For while there were undoubtedly very few men of science who laid aside the specific prerogatives of their various professions to go to the war as men only, the story of Dr. Center and the war,—that of an individual doing his best for right, and right only—is duplicated probably by tens of thousands among men who wore the khaki side by side with the doctor. This book is of protein value because, while it appears in the modest dress of the home town printer, and is declared frankly to have been written for "family record" only, the volume affords a balanced bird's eye view of many angles of the war. For those who desire to be seeped in detailed atrocities or "Army scandals," this book of Dr. Center's will seem a "dud," albeit the document owns all the inherent qualities of dormant explosives accreted such temperamental shells. More than one rap at things as they were is taken deftly by soldier and surgeon.

"He who runs may read." More than one member of the A. E. F. will chuckle reminiscently at certain cited disciplinary systems at which Colonel Center takes a good hard rap.

Perhaps the finest part about the book is the unwitting delineation of the author's own hero-



ism contingent upon his personal life, both in the wife and three sons—two of them practically infants whom he left at home, and for the fourth son, a boy hardly old enough to be in the army and yet who was there. As a tribute to the class of men turned into soldiers by the Illinois National Guard the book merits the Order of the Palm. The I. N. G. needs no brief for accomplishments in France. When it is remembered that it was in the "home guards" first that Dr. Center drilled, that in 1905 he was assistant surgeon medical corps, Fifth Illinois Infantry, and that it was love of the game as he knew it in those surroundings that sent him into the contingent that took him to France, the book he has written is another decoration for the "Thirty-third."

There is much psychology that is good for peace as well as for war in the reprints of the letters Dr. Center had written home to various organizations—the Consistory, the Rotary and other clubs. And there is much insight and no little humor and philosophy in that comparison the colonel makes of soldiers from various nationalities—the Australian, British, Scotch, Canadian, French, and American. Col. Center writes, saying of the Americans, "They are the bonniest fighters that the world has ever seen, and the anxious families at home, who may now, or who may in the future be sorrowing over the death of one of these fighting men, may hold their heads high with pride, that *one of theirs* was *one of the best the world has known*, in this the greatest war of all history."

Dr. Center deplores the movement of troops on Nov. 10, 1918, as unnecessary in his opinion and states that "American lives lost that morning were needlessly sacrificed. . . . Because of a blunder, or a mistaken idea, or to make a showing, or some other indefensible reason—into the mud and marsh of the Valley of the Woevre marched the foot troops of the Thirty-third Division that morning of November 11 to make a Roman holiday for someone."

There is real humor in the way the Colonel and a "caterpillar" cleared a trafficked road. More of the same is to be found in the tale of the sharpshooters and the bottles. Of course, in this the Colonel won. As William Hodge would say, "Don't they always?" Anybody who has ever bought, sold, or handled a government mule

will laugh with a pitying thought for the poor Luxemburger and his purchase at the animal auction.

There is much human interest in the account of the meeting with the King of England, and even more, though of a different sort, in the reference to the "hardening" and consequent loss of horses and mules. Nor can one read without enjoyment anecdotes of the boyhood of the colonel on an Illinois pioneer's farm, his struggles for an education, and even his two youthful poems from "The Corpuscle," an early student publication at Rush Medical College, of which Dr. Center was an editor.

Let it be repeated. Psychology and philosophy of the book are as sustaining as its direct citations. Though printed privately, the book merits and probably will have a wide circulation. A most excellent likeness of Col. Center is the volume's frontispiece.

The book sells at \$2.50.

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#### INSTRUCTIONS TO CONTRIBUTORS OF PAPERS FOR PUBLICATION IN THE JOURNAL

It is expressly understood that articles contributed to the ILLINOIS MEDICAL JOURNAL have not been and, if accepted, will not be offered to another journal for prior or simultaneous publication; no objection can be raised for the subsequent reproduction of any of them. Although it is believed that reprinting or simultaneous reproduction of papers in readily accessible journals in a given field is professionally unnecessary, bibliographically undesirable and economically wasteful, however, if a contributor has a paper printed elsewhere subsequently to its appearance in the ILLINOIS MEDICAL JOURNAL (excepting a volume of society transactions), due credit shall be given for original publication. The editor relies upon all contributors to conform to this rule.

Manuscripts should be typewritten, double spaced, and only clear verified copies presented. The name and address of the author should appear under title of the paper. The name of the society before which presented, as well as the date of address, should appear as a foot-note. Literature cited should be assembled at the end of a manuscript in numerical order and should be numbered serially. These bibliographic items in the list should be referred to in the text by

numerals in parentheses corresponding with the sequence numerals in the list. Each item in this reference list should consist (in this order) of the (a) numeral indicating its sequence in the list, (b) name of the author, (c) year of publication, (d) exact title of the paper (or book) referred to, (e) full title of the periodical containing the paper, (f) volume numeral for that periodical, and (g) numeral for the first page (or page specially cited) of the paper.

All illustrations should be submitted in such forms as to admit of photographic reproduction without retouching or redrawing. Marginal letters cannot always be set in type and should, therefore, be written in India ink and regarded as parts of the original illustrations; or, in doubtful cases, the marginal lettering may be inserted temporarily, with lead pencil, for suitable attention by the editor. Unless specific instructions are given by authors, the printer will be requested to determine the degree of reduction that may most suitably be applied in illustration. Reproduction of illustrations can be effected most satisfactorily, as a rule, when the originals are large enough to permit of considerable reduction in the plates prepared from them.

## RELIEVING THE MONOTONY OF LIVER DIET

### LIVER DIET IN ANEMIA

While liver seems to be presenting increasing evidence of its value in the treatment of anemia, physicians everywhere are finding it difficult to keep patients contented and happy while they are taking it. One patient who was told that she must continue indefinitely to consume about a pound of liver daily, said: "Doctor, it can't be done. I can't even take liver every day, and certainly not for every meal." This state of affairs is due partly to the fact that few people can cook liver in any other way than by frying, and the following recipes are presented in the hope of alleviating this truly monotonous and not very appetizing dietary.

The recipes are taken from English and French sources, as in these countries liver is a much more popular article of food than it is in the United States.

#### FRENCH WAYS OF COOKING LIVER

- 1 pound of liver
- 1 slice of bread *grated*—this means grated, not crumbled
- 1 tablespoonful of chopped parsley

- $\frac{1}{2}$  teaspoonful of salt
- $\frac{1}{4}$  teaspoonful of pepper
- A very thin slice of ham

Wash the liver well and cut into thin slices; put into casserole; sprinkle the bread crumbs over it, then the parsley, pepper and salt. Cut the ham into strips and lay it on top, then pour in one teacupful of cold water. Bake in oven for half an hour.

Another French recipe is as follows:

- 1 pound of calf's liver
- 3 tablespoonfuls of grated bread crumbs
- 4 large mushrooms, chopped
- 1 medium-sized onion finely chopped
- 2 sprigs of parsley finely chopped
- $\frac{1}{2}$  teaspoonful of salt and a pinch of pepper

Cut the liver into slices half an inch thick, and sprinkle each slice with the mixture of bread crumbs, mushrooms and seasonings; put in a casserole, pour over it one-half pint of cold water or good soup stock, and bake in a slow oven for three-quarters of an hour.

#### LIVER MOLDS

This is an English recipe:

Take 1 pound of liver, boil it and grate it with three strips of bacon. Mix it with about one-fourth of the amount of bread crumbs, the yolks of two eggs and seasoning to taste. Steam in buttered molds.

#### LARDED LIVER

This recipe is taken from a Scottish cook-book:

Take a lamb's liver and lard it in rather close rows, covering the whole upper surface. Place it in a deep casserole with chopped onions, carrots, slices of fat bacon, salt, pepper, and sweet herbs (sage, etc.). Cover with water or a good soup stock. Cook in a moderate oven for forty or fifty minutes. Turn out on a hot dish. Thicken the liquor slightly with flour and butter, adding a small amount of lemon juice and paprika.

#### MINCED LIVER

This, also, is a British recipe:

Boil 2 pounds of liver till it is firm enough to chop easily; then mince it rather fine with a little bacon. Chop a Spanish onion and fry slowly in butter or bacon fat—just long enough to make it soft; then add the liver, season very slightly with salt and pepper and cook slowly, stirring continually for ten or twelve minutes. Then add a cup of soup stock and a tablespoonful of chopped parsley and a very little Yorkshire relish (this last item may be omitted). Cover closely and let simmer gently for about an hour. Serve on toast.

#### CALF'S LIVER WITH FINE HERBS

This is a French recipe taken from an old English cook book:

- 1 calf's liver
- 1 bunch of savory herbs, including parsley
- 2 chopped shalots (onions may be used instead, but they should be parboiled before chopping)
- 1 teaspoonful of flour
- 1 tablespoonful of vinegar
- 1 tablespoonful of lemon juice
- $\frac{1}{4}$  pint of water
- Pepper and salt to taste

Cut the liver into slices, dip in flour, and fry in



butter till a light gold color. Take out of pan and keep hot.

Mince the herbs very fine, put in frying pan, add a little more butter, add the remaining ingredients, simmer gently until the herbs are cooked, and then pour over liver.

#### CALF'S LIVER LARDED AND ROASTED

Take one calf's liver and lard it. Put it into vinegar with an onion cut in slices, parsley, thyme, bay leaf and a little salt and pepper. Let it remain in this pickle for twenty-four hours, then roast and baste it frequently with the vinegar. Serve it with brown gravy or a sauce made with chopped herbs. The time required for roasting is rather more than an hour.

#### MOCK DUCK

This is a Canadian recipe:

Take a fresh calf's liver and stuff with duck dressing (sage and onions, which should be parboiled before being mixed with the other ingredients). Put the stuffed liver in a pan, cover with strips of bacon and bake for two hours, basting frequently with the fat from the bacon strips.

J. A. M. A.

#### LIVER COCKTAIL: LIVER IN EDIBLE FORM FOR PERNICIOUS ANEMIA PATIENT

An edible liver cocktail is prepared by William Thomas Wilkins, Jr., Piqua, Ohio (*Journal A. M. A.*, Sept. 17, 1927), as follows: After having scraped the liver it is run through a meat grinder twice, the finest cutter being used, and placed on ice immediately. One-half pound of liver makes four tablespoonfuls of crushed product. Prepare a sauce as follows: Tomato catsup (Heinz),  $\frac{1}{2}$  cup; lemon juice,  $\frac{1}{4}$  cup; Worcestershire sauce, 2 teaspoonfuls; chives (finely chopped),  $\frac{1}{2}$  teaspoonful, and salt and pepper, to taste. Mix the liver and sauce in the proportion of one part crushed liver to two and a half parts of sauce. Chill thoroughly and serve in a cocktail glass with salt crackers or wafers.

### Correspondence

#### GALESBURG CITY COUNCIL ASKS ACCOUNTING ON CHILD CLINIC

##### CRITICISM UPON THE ACTIVITIES OF DOCTOR EAST

Galesburg, Ill., Oct. 13, 1927.

*To the Editor:* The accompanying article, taken from the *Galesburg Register-Mail* of October 11 throws an interesting sidelight on the Child Welfare situation in Knox County, also the active interest taken in all such matters by Dr. Maley, who feels that in this particular case the Child Welfare Conferences, as conducted, do not care for the indigent of the community nor

do they show proper ethical regard for the family physician of the children cared for.

These clinics, conducted under the name of "The Red Cross Child Welfare Conference," are only partially supported by the Red Cross, and apparently due to this fact the Red Cross authorities will take no action in attempting to change the method of conduct of the clinic, nor has any attempt been made to give care to the indigent children, as the major part of their activity.

Probably the greatest points of criticism of these conferences, as they are conducted, have been the small number of indigents cared for, the lack of ethical regard for the family physician and the fact that in some cases personal solicitation for the clinic has been carried on by paid members of the personnel.

B. V. McCLANAHAN,

President Knox County Medical Society.

#### COUNCIL ASKS ACCOUNTING ON CHILD CLINIC APPROPRIATION FOR WELFARE WORK MAY BE CUT OFF AS RESULT OF ALDERMAN'S CHARGES

Unless the child welfare organization of the local Red Cross furnishes the city council with an itemized statement of its expenditures at the next council meeting, the city appropriation for child welfare work will be withheld until such statement is forthcoming. This was decided at the adjourned council meeting last night following an attack on the work of the child welfare organization by Alderman Dr. W. H. Maley.

##### SAYS NEEDY SLIGHTED

Dr. Maley declared that he had the highest regard for the work of the Red Cross, but said that the Red Cross could be abused. He said that the city was appropriating \$75 a month, or \$900 a year, for child welfare work, and alleged that but little was being done for the needy children of the city. He further declared that the city medical department was doing more for the people in a day than the child welfare organization did in a year. He charged that the child welfare clinic was not being operated for the benefit of poor children, but for a few who were being brought to the clinic in limousines.

Dr. Maley further charged that improper braces had been furnished children and that exorbitant prices had been charged for them after they had been forced upon the unfortunate indi-

viduals. In one case, Dr. Maley said that the brace was heavier than the child wearing it.

#### COMMENT CAUSTIC

Caustic comments were made by Dr. Maley upon the activities of Dr. East, who visits the city on behalf of child welfare work. The people who actually need aid are not getting it, Dr. Maley said. The alderman then made a motion that no more money be given to the child welfare organization until an itemized list of expenditures is furnished. He said that a report of work had been received, but nothing to indicate where the money had gone.

Alderman Max J. Mack suggested that the city attorney request the child welfare group to furnish the statement of expenditures by the next council meeting, and that if there is no report then that further funds be refused. Dr. Maley agreed to this and the motion was thus passed unanimously.

The alleged inefficiency of the child welfare department was discussed informally by the aldermen after adjournment of the meeting.

#### MICHIGAN DOCTOR APPRECIATES MEDICAL HISTORY OF ILLINOIS

##### GREAT ASSISTANCE IN COMPILING MEDICAL HISTORY OF MICHIGAN

Flint, Michigan,  
October 9, 1927

Lucius H. Zeuch, M. D.,  
3014 Fullerton Ave.,  
Chicago, Illinois  
Dear Doctor Zeuch:

I received yesterday through the courtesy of the council of the Michigan State Medical Society, volume I, of the History of Medical Practice In Illinois. It is a colossal compilation, the arrangement is interesting and I have greatly enjoyed the early chapters. Much pleasure is, I am sure, in store from the reading. Please accept my sincere congratulations.

I am chairman of a committee to prepare a medical history of Michigan and have been engaged in the work, as time permitted since last December. From my first chapter, published in the September Journal, it will be seen that our thinking on the subject has been in parallel lines, but you discovered more about Michigan and the bootlegger in furs than I. I like the plan of

running anecdotal matter along in the text and had decided about this for our own history. Similarly we regard "Pioneer physician" as those in practice in Michigan prior to the establishment of the medical department of the University of Michigan in 1851.

I am curious to know how many volumes you contemplate publishing. Thus far I haven't the remotest idea of the amount of printing we shall require.

What a wealth of attractive illustrations you have assembled! I have had great difficulty in obtaining a few. I have been thinking aloud for months through medical societies and the Journal for a likeness of a pioneer physician on horse-back with saddle-back equipment. How I envy you Dr. Klopfer's drawing, page 128.

Again with congratulations, believe me

Yours truly,

C. B. BURR, M. D.

#### UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examinations:

##### TRAINED NURSE TRAINED NURSE (PSYCHIATRIC)

Applications for trained nurse and trained nurse (psychiatric) must be on file with the Civil Service Commission at Washington, D. C., not later than December 3. The date for assembling of competitors will be stated on their admission cards, and will be about ten days after the close of receipt of applications.

The examinations are to fill vacancies in the Panama Canal Service, and in positions requiring similar qualifications.

The entrance salary for female nurses is \$120 a month, and for male nurses \$125 a month. The entrance salary for female nurses (psychiatric) is \$135 a month, and for male nurses (psychiatric) \$140 a month.

Competitors will be rated on practical questions in anatomy, hygiene, and nursing; and their education, training and experience.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the United States civil service board of examiners at the post office or custom house in any city.

#### THE ADMINISTRATION OF CALCIUM SALTS

Calcium therapy has acquired a new interest in medicine along with the growing knowledge of the parts that the element may play in a variety of physiologic functions. These are no longer restricted to the



building of the inorganic structure of the bones—a feature in which calcium is the most conspicuous element and is involved to the extent of several pounds in the adult person. Calcium has also become associated in as yet vaguely understood ways with the regulation of nervous, muscular and granular activities, and in the coagulation of the blood; and it is believed to have some relations to variations in the permeability of the blood vessels and cells in such phenomena as transudation, the genesis of edema, and the appearance of urticarias.<sup>1</sup>

According to Sherman, the average calcium requirement of an adult person daily is about 0.5 gm. As comparatively few common foods yield the element in abundance, it can readily happen that the daily diet may fail to furnish the requisite amount. Furthermore, the absorption of calcium seems to be modified in no small measure by alimentary conditions, notably the reaction of the intestinal contents. These considerations lend an obvious importance to the problem of administering calcium in satisfactory ways when such therapy seems to be indicated. Intravenous and subcutaneous procedures are attended with dangers or discomforts; therefore the possibilities of the oral route call for careful consideration. Ordinary balance experiments afford only limited indications of the efficacy of ingestion of calcium-bearing substances because the alimentary tract is the seat of both absorption and excretion of the element. The fecal calcium may or may not have taken part in the tissue of functions; a mere analysis of the output will not reveal the desired answer. Consequently, in recent years attention has come to be centered on the content of circulating calcium, which under normal dietary conditions is not appreciably changed.

A survey of the literature on the absorption of calcium as it may be reflected in a change in the blood concentration of the element might leave one unconvinced of the efficacy of administering calcium compounds by mouth. Many clinicians have accordingly abandoned the practice. The more recent studies give evidence, however, that with due attention to the conditions of administration it is possible to elevate the serum calcium concentration by the oral route of calcium supply. This is shown in the reports of Roe and Kahn. In experiments on man with calcium lactate, they believed the optimal dose of this salt to be 5 gm. This intake is adequate under normal conditions to produce definite increments in the blood concentration of calcium in the course of a few hours. Such results are obtained, however, only by ingestion of aqueous solutions when the digestive tract is comparatively empty; that is, either before breakfast or several hours after food has been consumed. Simultaneous ingestion of various foods along with calcium lactate in 5 gm. doses and larger amounts of the salt are likely to produce a marked depression of the rate of absorption of calcium from the intestinal tract. In the case of the foods, the resultant decreased hydrogen ion concentrations are probably responsible for the unsatisfactory outcome. The absorption of the element is notably depressed by a

tendency to alkalinity in the path of absorption. Larger doses of the calcium salts probably prevent optimal absorption because they produce some irritation of the intestinal mucosa. It appears, therefore, that administration of calcium salts, notably calcium lactate, can be made therapeutically effective if they are given in not too large amounts under essentially fasting conditions.—J. A. M. A.

1. New and Nonofficial Remedies, 1927, p. 109.

## REPORT ON WINDOW GLASS SUBSTITUTES

The Council on Physical Therapy publishes a report of work carried out under its auspices, to determine the efficiency of certain window glass substitutes for transmitting the antirachitic rays of sunlight. The transmission of ultraviolet rays was determined both by spectroscopic analysis and by the biologic effects of the transmitted light on the growth of chickens. The following materials were tested: Vitaglass (transparent), Cel-O-Glass, Flex-O-Glass and Corning Glass. Vitaglass and Corning Glass are stated to be true glasses. Celoglass is composed of wire mesh screen filled with an apparently celluloidinous material. Flexoglass is a thin, fairly loosely woven cloth treated with a paraffin-like substance. The Vitaglass and Celoglass transmitted a large percentage of the sun's ultraviolet rays since the chickens reared behind these glasses showed similar development as those which received ultraviolet radiation from the artificial source. Chickens which received the sunlight through Flexoglass did not show the same growth as did the irradiated controls, but did gain more rapidly than those receiving sunlight through window glass. The Corning Glass was received too late for the biologic test, but from the spectroscopic measurements it is evident that this glass is equal to the best of those tests in its ability to transmit the antirachitic rays of the sun. The study leads to the conclusion that there are now available materials for glazing windows which do not possess the fault of window glass in excluding the health-giving rays of sunlight.—*Jour. A. M. A.*, May 14, 1927.

## MATERNAL PATERNALISM

Here is a typical case of "uplift," the end-results are generally uniform with an over-increasing mania to reach out farther and farther until the entire community is encompassed. Too, this sort of thing has the sanction of government, for the following is taken from publicity sheets issued to the press of the United States by the U. S. Children's Bureau:

"The New York Maternity Center Association takes care of pregnant women, and last year—1926—it was so successful in this work that not a single one of the 2,000 mothers cared for died as result of childbirth. If this group had shown the same maternal death rate as that for the city in general, eight or more of the 2,000 would have lost their lives. The association formerly gave care exclusively to poor women, but last year it offered its services to mothers of profes-

sional and salaried classes and nearly 200 such mothers took advantage of them."

Of course, your own interpretation can be placed on the statement of "took advantage of them."

The statement was carried under the caption of "Child-Bearing Need Not Be a Dangerous Occupation."—*Ohio State Medical Journal*.

#### POISONS AND HARMFUL DRUGS FOUND IN SOME COSMETICS

The dangerous character of wood alcohol is so well established that it would appear almost incredible that anyone would dare offer a preparation containing wood alcohol for use on the human body. Wood alcohol is, however, but one of the many poisonous drugs that have been found in so-called cosmetics.

Of the potent drugs of a possibly harmful nature that are used in so-called hair restoratives, there are lead acetate, silver nitrate, paraphenylenediamine, and resorcin. The beauty washes and face enamels contain an even more impressive array of dangerously potent drugs including flake white or lead carbonate, lead plaster, corrosive sublimate or mercuric chloride, calomel, white precipitate or ammoniated mercury, pearl white or bismuth subnitrate, zinc white or zinc oxide, Chinese or commercial zinc oxide and zinc soap.

Flake white is the ordinary white lead of commerce. It is also known as body white, silver white, Dutch white, French white, London white, Roman white, and China white. It is generally recognized as the common cause of industrial lead poisoning.

It has also been observed that females are more susceptible to the action of metallic poisons than are males.—*United States Daily*.

#### OBERMAYER'S TEST FOR INDICAN IN THE URINE

Dr. Dean N. Beacom of Denver in *Colorado Medicine*, August, 1927, outlines a test as follows:

A test for indican should be a part of every routine examination of the urine because it tells much concerning the patient not only from a diagnostic but also from a prognostic standpoint since the presence of this substance is usually indicative of putrefaction<sup>1</sup>. This process most often occurs in the intestine, but it may be brought about by the decomposition of exudates anywhere in the body as in empyema, bronchiectasis, and large tuberculous cavities. Obermayer's test is probably the best one yet devised for the detection of indican because of its simplicity and clinical accuracy. However, there are a few points in the technic of the test which have to be observed if accurate results are desired.

In brief, the test is performed as follows: A few cubic centimeters of urine are placed in a test tube and an equal amount of Obermayer's reagent (concentrated hydrochloric acid, 1000 c.c., and ferric chlorid, 2 gm.) is added. About one cubic centimeter of chloroform is placed in the test tube and the solution is mixed by inverting a few times. The chloroform sinks to the bottom, and will take on a blue or occasion-

ally a red color, which is proportionate in intensity to the amount of indican present.

This test is a very simple one, and the results are very definite. But some workers are not as careful in using correct proportions of urine and Obermayer's reagent as they should be. The solutions are usually poured into a test tube, the amounts being estimated with the eye. This method can be as accurate as is needed for clinical purposes, but often during the rush of an examination an excess of one of the solutions may be added. If this happens, the results will be incorrect.

A large number of positive urines were examined and the results recorded when different amounts of the reagent and urine were placed together in a test tube. The results brought out the fact that the strongest test was obtained when equal parts were used. The findings on one urine which are given below are typical of the entire series.

Urine	Obermayer's	Chloroform	Reaction
1 c.c.	9 c.c.	1 c.c.	Negative
2 c.c.	8 c.c.	1 c.c.	Negative
3 c.c.	7 c.c.	1 c.c.	Negative
4 c.c.	6 c.c.	1 c.c.	Weak Positive
5 c.c.	5 c.c.	1 c.c.	Strong Positive
6 c.c.	4 c.c.	1 c.c.	Weak Positive
7 c.c.	3 c.c.	1 c.c.	Faint trace
8 c.c.	2 c.c.	1 c.c.	Negative
9 c.c.	1 c.c.	1 c.c.	Negative

All of the tests were controlled by measuring accurately the amounts of urine and reagents, by allowing Obermayer's reagent to react with the urine the same length of time in each case, and by mixing each tube by inverting the same number of times.

Often it is not convenient to measure the amounts of the different liquids by means of a pipet. Some workers use graduated centrifuge tubes for obtaining the correct amounts. Others use the method as suggested by Todd<sup>2</sup> of marking test tubes indicating the amounts of urine and reagents to be used. These tubes are employed only for the indican test. This method is advantageous because the same amounts of the different liquids are always used, thus allowing a more nearly accurate quantitative comparison in different patients and also in different specimens from the same patient. But in interpreting the findings it is always necessary to consider the amount of urine which the patient is voiding since the same amount of putrefaction will give a much stronger test when only a small amount of urine is passed daily than when the output is greater in amount.

#### REFERENCES

1. Simon, C. E.: *Clinical Diagnosis*, ed. 10, Philadelphia and New York, 1922, Lea and Febiger, p. 650.
2. Todd, J. C.: *Clinical Diagnosis by Laboratory Methods*, ed. 5, Philadelphia, 1924, W. B. Saunders Company, p. 127.

#### FISHERMAN'S LUCK

"I think the man you married is a fine-looking fellow."

"Ah, but you should have seen the one that got away."—*Everybody's Weekly*.



## A COMPARISON OF MALARIAL AND TRYPARSAMIDE THERAPY IN PARESIS

H. H. REESE

*The Wisconsin Medical Journal*, 25: 289-292  
(June) 1926.

After research in Europe it was decided that arsephenamines aggravate the clinical picture of paresis and that their use was contra-indicated in the treatment of paresis. Experiments with the knowledge of the occurrence of remissions of symptoms in paresis following a febrile disease showed that malaria produced the longest arrest.

Before administering the malaria plasmodia the patient's drug idiosyncrasy against quinine should be tested to prevent symptoms of cinchonism later when the malarial infection has to be treated.

The technical procedure of the artificial malarial infection is carried out as follows: After a period of clinical observation, which includes record of weight and usually 1 or 2 lumbar punctures, the patient is inoculated intravenously with 3 to 5 c. c. of blood obtained from a patient suffering from tertian malaria. The exclusive use of the intravenous injections is advisable because of the certainty of a "take" and because of the shortened and more uniform duration of the incubation period. Such a small injection of blood has never produced any anaphylactic reaction. After 4 to 8 days the patient thus infected has definite febrile attacks beginning with a chill. The tertian type mostly changes into a diurnal type.

During the period of malarial paroxysms with temperature of 104, or above, one never sees a leukocytosis. Complications have very rarely been encountered, such as herpes, mild jaundice, or convulsions. Nevertheless, the heart function, the blood findings, the bowels, the genito-urinary tract and the diet must be carefully watched. The total number of chills should be from 8 to 15, according to the constitution of the patient. It is true that the patient becomes very anemic and the associated loss of appetite is followed by a marked loss of weight. These conditions do not affect paretics greatly as they stand these discomforts with the equanimity typical of paresis. Furthermore, recovery takes place within approximately 2 weeks after quinine medication.

The treatment of the malaria itself is conducted as follows: Quinine sulfate, grs. 6, given for 12 days twice a day. Three days rest period, and from this point 3 days of treatment are alternated with 3 days of rest until a total of about 250 grains of quinine have been administered. Quinine is so efficient in dealing with inoculation malaria that but one case of the author's has had a relapse. During the time of psychic convalescence mercury rubs are given.

Of the author's patients 50 per cent were improved, showing only slight psychotic and somatic disturbances; 20 per cent showed great improvement, were clinically arrested and their mentality returned to normal; 30 per cent remained without change in their clinical and mental symptomatology.

Spontaneous cure occurs in about 5 to 11 per cent

of untreated paretics and is very similar to the arrest clinically through malaria. The author obtained his come soon after cure of the malarial infection or not until several months later. The efficiency of this treatment is based on no known principles.

Tryparsamide is the only antiluetic drug that helps paresis, it is often very beneficial where other measures fail. The drug is a white, odorless, tasteless, crystalline solid and extremely soluble in water. It is administered intravenously in 3 gm. doses dissolved in 10 c. c. of sterile, freshly distilled water. This solution is given at intervals of 1 week and for a period of 8 weeks, at the same time administering mercuric salicylate intramuscularly in 1 gr. doses alternating with 8 tryparsamide injections. This constitutes one course of treatment. After a rest period of 5 to 8 weeks similar courses are repeated until there are no more clinical and serological evidences of activity.

The author believes that with this drug 30 per cent can be clinically arrested and 66 per cent can be directly improved.

The danger of producing optic nerve changes with tryparsamide is practically nil if a thorough eye examination is made previous to its administration. In the author's series treatment was stopped if changes of vision or fields could be demonstrated or were complained of. This drug has a definite action on nutrition, the majority of the author's patients decidedly gaining weight.

The ultimate goal of antiparetic therapy is to find a combination of methods which will render the patient permanently free from progressive neurological symptoms and produce a state of complete serological negativity.

Malarial treatment leads to clinical improvement in about 30 per cent of the cases within a month after cure of the malarial infection. Tryparsamide therapy requires 4 or 5 months to bring about improvement but is decidedly beneficial in about 60 per cent of the cases. Malarial treatment cannot be used in emaciated patients, while tryparsamide therapy results in marked physical improvement, and if properly controlled is not harmful to the optic tract.

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### FEW WORDS

A city lad stopped along the side of a country road and got out of his car to josh a barefoot rural boy. Leaning over a fence which happened to be handy, he said:

"Your corn is a little yellow, isn't it, son?"

"Yes, sir, that's the kind we planted."

"Not going to have more than half a crop are you?"

"No, sir, the landlord gets the other half."

"Then there's not much between you and a dam-fool, is there?"

"No, sir, nothing but that fence."

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### RAH, RAH ANALYSIS

"I wish some college clothes."

"Athletic, humorous, or studious?"—*Louisville Courier-Journal*.

## Original Articles

### PUBLIC HEALTH ACTIVITIES OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK\*

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Mr. President and Members of the Section on Public Health and Hygiene of the Illinois State Medical Society.

I am deeply appreciative of the honor bestowed when you invited me to be with you and discuss some phase of the great subject of Preventive Medicine. As one who has spent most of the period of his professional career in the special field of surgery, it would seem that my discussion today should be in the surgical section rather than to attempt to launch into that unlimited field known as Preventive Medicine, or, more correctly speaking, "the Prevention of Disease." For this digression from my special work, I make no apology, but only hope that the physicians of this state of Illinois will likewise digress, and, irrespective of what particular branch of the healing art they are practicing, will endeavor to devote some portion of their time to the subject of prevention of disease. With the exception of public health officials and research workers, the great rank and file of the medical profession devote their lives in combating and trying to overcome pathological processes, known by various names, but which are definitely established disease; and that is, and always will be, a great portion of the activities of medical men. But no careful thinking physician can help being impressed as he goes about his daily clinical work, by the tremendous amount of illness with its consequent loss of life, suffering and economic waste, which could have been prevented by the proper application of known scientific methods. Neither would I underrate the beautiful spirit of self-sacrifice shown by medical men in their endeavor, through long hours of hard work, to salvage these poor unfortunates whose diseased conditions either should not have been, or should have been cared for at a time when they could be easily and rapidly eradicated.

When one contemplates the subject of the prevention of disease, one's mind naturally wanders to a consideration of typhoid, diphtheria, smallpox, tetanus, etc., for it is by these diseases of a communicable type that one is most impressed as being preventable, and indeed such is the case. But why allow ourselves to stop with the consideration of this type of disease? True it is that in using the established scientific preventive measures to eliminate such diseases we are practicing physiological instead of pathological medicine and accomplishing thereby an amount of good in the prevention of disease so great that it is difficult to estimate. Nevertheless, a greater and broader field opens before us when we view the possibility of prevention, by early treatment, of the extension and spread of definite pathology; for instance, the proper care and treatment of all acute infections of the upper respiratory tract, thereby eliminating the probable complications of severe grade such as mastoiditis, or bronchopneumonia; the removal of a focus of acute infection in the abdomen, such as an acute appendicitis, before it has had an opportunity to develop a septic peritonitis; the closure of perforations of the hollow viscera prior to the spread of infective material; the prenatal care of the pregnant woman; the early surgical treatment of the known sources of irritation, that we may forestall and prevent the proliferation and lawless growth of epithelial tissue, commonly known as cancer. One could go on indefinitely enumerating the various conditions which, if combatted by some form of treatment, medical, surgical or otherwise, would prevent many of the serious types of illness with their resulting morbidity and mortality. In order for the physician to accomplish the greatest amount of service in preventing the spread of disease there must be constant vigilance in the care of acute conditions no matter how trivial they seem. For those conditions which are not acute in their onset we have a more difficult problem to solve, and here it is that the periodic physical examination of the supposedly healthy person is going to be of paramount importance and will be the means of enabling us to detect disease in its early stages, and whilst curable. In order to popularize this method it means that public education along health lines must be pushed to a greater extent by the physician than heretofore. We are living

\*Read before Section on Public Health and Hygiene, Illinois State Medical Society, Moline, June 1, 1927.



now in a period in the history of medicine when conditions and methods are changing very rapidly; no longer can the physician disregard this fact and continue to devote his entire time to the study and treatment of established disease. He must be a teacher as well; he must assume the responsibility of instructing his clientele in all that is required to be known of the plain facts in relation to the prevention of disease and in so doing he must inculcate in their minds the necessity for periodic health examinations. The task of educating the people up to the point of being examined physically every one or two years is tremendous, but will be made easier by the increasing interest that is shown in matters appertaining to public health. The American does not fear knowledge, but rather does he abhor ignorance; all of this means that there must be a new and better contact between physician and patient. The ethical barrier which necessitated the patient sending for the physician must to a certain extent be cast aside and the medical man must overcome his delicacy of feeling and insist upon his patrons coming to him when they are apparently in good health, in order that examination be made which may reveal conditions of impending or actual disease. The physician who adopts this plan will soon have the confidence and esteem of his patients and his reputation will be untarnished by any charge of commercialism or unethical practice. The public interest in health questions and in personal care when sick is steadily advancing, as demonstrated by the increasing activity of all organizations of either a medical or lay character that have to do with the prevention or cure of disease. Hospital beddage over the country is increasing very rapidly due to the influx of patients from rural sections to the nearest cities of the third and fourth class, where they can have the benefits to be derived from skilled nursing, laboratories, etc., as well as medical care. The public is generously applying its money towards the cost of this greater hospital construction. Two counties in which I am especially interested had a hospital accommodation in 1912 for about 90 bed patients; at the present time there are over 600 hospital beds in those counties, all made necessary by the trend of the public mind, whether in rural or urban sections, to have proper hospitalization when sick. Our Gover-

nor, during 1923, called a conference of medical men from all parts of the state to discuss in part "What shall be done about the rural sections that are gradually becoming depleted of physicians?" It was a noble thought upon his part, but it was demonstrated to him that many sections had already answered the question by relying upon the most available hospital and that one of the great duties of the state consisted in the construction of adequate highways and removal of snow from them during the winter, in order that the rural physician could get about to patients or encourage their removal to hospitals. These prosaic measures constitute another viewpoint in preventive medicine.

In New York State we are endeavoring in many ways to further the progress of preventive medicine. The organized profession, The Medical Society of the State of New York, is initiating, planning and actively working throughout the state to educate the people to the advantage to be derived from preventive medicine. During the past year we succeeded in getting a revised Medical Practice Act, the enforcement of which will eliminate charlatanism, cults, and all types of irregular practice. Our present Governor appoints a committee of medical men, who are nominated by the State Medical Society, to advise him with reference to medical questions which come under his jurisdiction. We are reasonably proud of the work done in our Anti-Diphtheria Campaign—the solgan being "No Diphtheria by 1930." This campaign is in charge of The Medical Society of the State of New York, the State Board of Health, and the State Charities Aid Association, plus many lay organizations; and they are working strenuously to rid the state of this disease. Education of parents to the necessity of having their children immunized is being conducted along many lines, some of them quite new in medical circles, for instance, there is to be spread throughout the state upon billboards of the Outdoor Advertising Company the legend that "Diphtheria is preventable," etc. About \$45,000 is to become available annually to care for the expense of the activities along this one line of prevention of disease. Although the work is only getting under way in some sections, there are other areas of the state that are most encouraging. For instance, Auburn has had no deaths from diphtheria for

over two years, due to the splendid campaign carried on by Dr. Sears and his efficient workers. Hudson has not had a death from this disease in over one year and Buffalo with 331 deaths from diphtheria during 1919, had only 30 during 1925. We hope for great results in this campaign, but like all preventive work it will only be successful if the practicing physician assumes an active and responsible leadership and thus insures the immunization of the child during the pre-school age, for in our state 60 per cent of the deaths from diphtheria are in that period. Hence how fallacious it is to leave this work to school physicians, health authorities, nurses, etc. The immunization should have been performed prior to the beginning of the school life of the child. By so doing the family physician loses none of his prestige, as is the case when requested to perform this service by a local Board of Health. Rather does he inculcate in the minds of his patrons the thought that he is interested and alert in his guardianship of their health and is practicing the known methods of prevention. Toxin-antitoxin as a preventive of diphtheria has been known for a sufficient number of years for all physicians to have advocated its use and they should have instilled in the minds of the parents the necessity for its administration to their children. In spite of this known fact about 700 lives were sacrificed from this disease in New York City (Van Etten) during 1925. Does this not suggest to us that physicians are not utilizing the knowledge they possess and are relying too much upon the work of health authorities, lay organizations, etc., rather than assuming the leadership which is their prerogative and duty in stamping out this vicious disease.

The discovery of the bacterial origin of some diseases by Pasteur in 1862 and immediately followed by its practical application by Lord Lister, did not actually become an established practice with the medical profession for about 20 years. The same delay occurred following Koch's discovery of the bacillus of tuberculosis. Shall we repeat those delays in the case of immunization to prevent diphtheria, or shall we become active and shorten the period between the discovery and its practical application? The Medical Society of the State of New York is insisting that each component county society

shall have an active committee which shall see that established preventive medical measures are taught and practiced throughout their respective counties. These committees vary greatly in their method of procedure, but all have the same ultimate object, viz.; to educate the people along the lines of prevention of disease and encourage the physician to utilize his knowledge and become a leader rather than a follower, a man who aims to prevent as well as to treat disease. Many of us who have practiced the healing art for a quarter of a century or more can recall the days when, in consultation, we were in at the death of several cases of tetanus each year. Now, with the very general prophylactic use of tetanus antitoxin we seldom, almost never, see a case. I wish I could speak as optimistically of the elimination of smallpox by vaccination, but there the story is somewhat different. Prejudice and ignorance have succeeded in limiting the use of vaccination in this country so that with the almost continuous outbreaks here and there over the United States one fears in the future there will be a fearful awakening in the form of a widespread epidemic.

Post graduate medical education is necessary to every physician each year in order that present day methods of examination and treatment may be given his clientele, also that he may intelligently assist and carry on along the lines of preventive medicine. By Osler this was known as "Brain dusting." Our State Medical Society has felt that it was not always possible for the physician to leave his practice and repair to a distant city to receive such education, hence, through our committee upon Public Health and Medical Education, courses are being given in the vicinity of the home and many counties are availing themselves of this easy method of obtaining post graduate medical education. Men of known reputation are obtained as teachers; courses are given in obstetrics, pediatrics, cardiology, tuberculosis and preventive medicine, all of which tend to bring the physicians of a county up to a higher grade of efficiency and enthuse them along the lines of the care of disease when established, or its prevention when possible. Some localities, especially the larger cities such as New York and Brooklyn, are having excellent courses of lectures and instruction as to methods of perfecting the periodic examination of sup-



posedly well people. This is also being taught most interestingly by means of the motion picture. Everywhere throughout the 61 counties of the state we are noting a gradual awakening of the physicians to the necessity and responsibility in assuming a leadership along the proven and established lines of disease prevention. By so doing they will broaden the field of their individual service to humanity and set an example for future generations that will make the world safe from preventive or unnecessary disease.

*Study of Cardiac Disease.* The seemingly ever-increasing mortality and morbidity from diseases of the heart has led our State Medical Society to appoint a committee of expert cardiologists to study the conditions from a broad standpoint and see what can be done, especially along the lines of prevention. The work of this committee has just nicely started; time will be required as well as the expenditure of considerable money before results of importance can be secured. But we are hoping that by this study much information can be obtained that will assist in stemming the tide of deaths due to the various cardiac diseases. Personally, I am of the opinion that when the work of this committee is consummated we will find that we are faced with a forceful argument in favor of the periodic examination of the apparently well, in order to hunt up foci of infection which may be the causative factor in producing much of the present pathology of the heart. True, many other reasons exist that are well known to all of us, and undoubtedly many that are unknown at the present time. Nevertheless, when the medical profession, as a whole, seeks, by physical examination, to determine the condition of the apparently well people, we will be surprised not only at the amount of pathology found, but by the steadily decreasing death rate as we remove foci of infection that are undermining the health of our constituents.

*Public Relations Committee.* The most notable accomplishment of the Medical Society of the State of New York during the present year consisted of the gathering together of the various voluntary health organizations and the Medical Society of the State, followed by the appointment of a committee to be known as The Public Relations Committee, the object of the committee being to consider problems arising on the

common ground between medical practice and public health with a view to bringing about better understanding, and so far as practicable, harmonious action in the common interests of all concerned. It is understood that the State Department of Health shall be advised with, in all activities in which it is interested and of which it is the normal custodian. One can readily visualize the great possibilities and future benefits to be derived from an association composed of the Organized Medical Body, voluntary health organizations, State Department of Health, etc., meeting upon a common ground through the medium of a joint committee to work out the knotty problems of public health and prevention of disease and to eliminate the dysfunction, misunderstanding, suspicion and economic waste which has ever been present when these bodies are operating along their own particular line and not in cooperation with each other. It has become a matter of history that any campaign along the lines of preventive medicine must have the backing, cooperation and active interest of the medical profession of the locality or it will fall flat as soon as the support of the voluntary organization ceases. At times, even during the progress of such activities, we see discord and disruption resulting from lack of cooperation and misunderstanding.

Naturally the physician is zealous to protect his profession, his individual rights and resents undue interference by welfare organizations, departments of health, etc. Constantly before him looms the spectre of state medicine. He has knowledge of the great financial resources controlled by many such organizations and of the great influence they can marshal in our legislative bodies. Hence he feels the necessity to protect himself and his profession and conducts a guerilla warfare against the very organizations which he should be assisting, for all public health activities should be unhampered, and to secure the best results, harmonious cooperation of all concerned is essential. We, the medical men of the country, could, as in the days gone by, treat established disease without the help and influence of the voluntary health organizations. The departments of health could carry on their activities along the lines of communicable disease, but the medical field of the present and future is bigger and broader than just the treatment of

established disease or the limitation of communicable conditions. Future medicine means prevention of disease through education of the public along proper lines, the early recognition of the outposts along the frontier of established disease and the recognition that a new era in the history of medicine is dawning where we, as the logical custodians of the public health, will be responsible for the prevention of disease to as great an extent as the science and art of medicine at the present day warrants. Can the medical profession do this alone? No. It is true that most of the basic principles of modern health methods were established by physicians and that the success of public health activities is in direct proportion to the interest taken by the medical profession. But why go it alone when we have so many voluntary lay organizations, frequently with great financial resources, willing and able to cooperate with us, accept our guidance and produce as an end result a more perfect working unit with far greater possibilities of usefulness to the public? Then, in accord and cooperation with the State Department of Health, with its various activities and ramifications reaching into each city, village and township, we will be fortifying the health department rather than continuing the attitude of suspicion and distrust which has seemed to exist; and the three organizations, Organized Medicine, Voluntary Health and Welfare Organizations and Department of Health will be so interlocked as to form one great machine to work in unison to far greater advantage than could be possible where each worked separately. Allow me to quote from the discussion by Dr. Rankin presented at the International Congress of Social Welfare in Washington:

Just as medicine has been extending its lines farther and farther away from the cure of existing disease and toward the anticipation of disease, so public health, with its initial interest and work largely restricted to prevention, has found that much of prevention is predicated on treatment and that to realize a further reduction in mortality and morbidity rates, its program must insist upon arrangements for the more adequate treatment of disease, disease in reality as well as in anticipation, for, after all, about the only difference between cure and prevention is chronologic. The public can no more renounce its interest and its rights in the treatment of disease than the medical profession can afford to restrict its work entirely to cure.

In the development of medicine and public health the work of disease prevention and disease treatment

have become so closely related that it is impossible to separate the two. Physiology fades into pathology, health into disease, as the green leaf of spring becomes transformed into the brown death of autumn. The unoccupied field in medicine, of health promotion and disease prevention, cannot be separated into two parts, one involving the problem of cure, the other that of prevention. The two problems are inseparable.

The interrelated, inseparable problems of disease prevention and treatment, can not be dealt with by two separate forces, one responsible for cure and the other for prevention. Separation of forces means lack of understanding and absence of coordination between workers whose tasks are much the same; it means friction and conflict with resulting harm to both medicine and public health. Combination of forces means understanding, coordination and increased efficiency for both branches of medicine.

But there is a much more important reason why two forces, one a group interested in prevention and public health and the other in the private practice of medicine, cannot occupy this field of disease prevention and health promotion, and this more important reason is that, practically speaking, there is but one group which is or can be made anything like adequate for dealing with this problem. That group is the medical profession. If the health officials of this country should undertake to organize, train and enlist a corps of workers sufficient to deal with the present field of disease prevention and health promotion, they would have to contemplate a force of from 100,000 to 200,000 professionally trained officers; furthermore, that force would be engaged in a task so intimately related to the work of private practice, with so much overlapping, that there would be constant friction, conflict, lost motion and inefficiency. There can be but one well-organized force in the field of vital conservation, and that force must, both by reason and necessity, be made up of health officials, always greatly limited in number, and the rank and file of the medical profession.

As the work of health officials and physicians cannot be separated, but must be coordinated, an understanding as to related responsibilities is essential. A proper division of responsibilities will be predicated on the general principle that the members of the medical profession shall perform such items of public health service, both of a curative and preventive character, as their training and number make possible, and that for such items of service, they shall be paid a reasonable compensation, the medical profession taking into consideration, in determining what is reasonable compensation, the difference between bulk work and individual case work, between wholesale and retail prices; and, further, that health officials, representing the public interest, shall so organize and restrict their personnel as to provide for the medical profession rendering the aforementioned services, the health officials devoting themselves largely to enforcement of health laws, particularly quarantine, passing upon items of service rendered by the profession for which remuneration is claimed, and in so organizing social and professional forces as to enable these forces to more completely



occupy and hold the field of disease prevention and health promotion.

In furthering this idea of cooperation between the various organizations making for better health conditions the House of Delegates of The Medical Society of the State of New York has requested the appointment of a Committee on Public Relations in each county society throughout the state, thus carrying the work of the State Committee into each county and unifying the forces which are at the present time working along separate lines and not always in harmony with the medical fraternity. Prior to the establishment of this idea we had one county (Suffolk) which, through its county medical society, had established such a cordial relationship, with all vountary organizations, Health Departments, etc., that it presents a notable example of the great benefit to be derived.

#### DISCUSSION

Dr. E. P. Sloan, Bloomington: I am sure that you all understand now why the great medical society of New York State selected that statesman, philosopher and public health man, Dr. Sadlier, for their president for this particular year. The relation of public health departments and public health work to the general profession is one of the most important questions that is up before the medical profession today. The fact that the New York Medical Society has, under the leadership of the group of men that have been in control in the last few years, made such phenomenal progress, should commend their policies to us in Illinois. The best interests of all the people of New York have been furthered by their unified efforts.

I am very glad indeed that Dr. Sadlier is with this public health section today. The section of public health of the Illinois State Medical Society for a long time was somewhat in the position of an ugly step-child in the family. It was treated about like an ugly step-child is often treated. That we have had Dr. Sadlier with us is certainly a high point to be added to our score. This public health section of our state society is coming into its own.

I am sorry that it has not been possible for every member of the Illinois State Medical Society to hear Dr. Sadlier's address. I am sure we all appreciate the fact that he has traveled so far to be with us and that we feel that his talk will go a long ways towards bringing about a proper relation between the public health section and the rest of the profession, to their mutual benefit.

Dr. G. Henry Mundt, Chicago: It has been a pleasure for me to hear Dr. Sadlier. The only difficulty with this thing is that it should have been given before the entire organization. It is a shame for a man to come the distance Dr. Sadlier did with the message that he brought and have such a small crowd here, and yet I have been in medical organizations

where the number was not to exceed a dozen, and I think in one or two instances those meetings have been as valuable as a large meeting possibly could be.

Periodical health examination, as the doctor said, is here. The thing is sold to the general public without question. There is some difficulty in selling it to the medical profession. There is a great question in my mind whether the men in the rural counties are not more sold to periodic health examinations than the men in the large cities. I feel that, because I have talked to men in both places. We must sell periodic health examination to the doctors. They are the fellows who must buy it. The public want it. If they didn't want it, there wouldn't be the success of the urine clubs all over this country that there is.

As to the general hospitalization of people, I think one must think twice. There may be considerable advantage to general hospitalization, but there is certainly an economic problem which must be considered when we consider hospitalizing everybody who is ill. Don't get the impression that I think that the average patient will not be handled better in a well-conducted and well-equipped hospital than they will be in their private homes, but there is an economic something which we must consider if we are going to give the thing the thought that we should.

I should like to ask the doctor in closing whether he will tell us a little about the Milbank Foundation. We all know something about it. It has been my impression that it is a matter of survey more than anything else.

I am glad to know that the State of New York has gotten so far ahead in the coordination of organized medicine and the volunteer and official health activities. That is a thing that is coming, without any question. During the last year the American Medical Association had a two-day meeting in Chicago, which I think was quite successful. Nothing definite was expected from that meeting; I don't think anything particularly was gained from it; but at the end of two or three or five years, I believe something will come out of that type of association which will be of value to the general public and to medicine. And by the way, every activity in medicine may well be weighed in the scale. Is it for the welfare of the general public? If it is, it is for the welfare of medicine. If it is not, it is not for the welfare of medicine.

Dr. Mather Pfeifferberger, Alton: It has been a pleasure for me to listen to Dr. Sadlier's paper. I think the keynote of his whole argument we all recognize at this time is that we must have the coordinated action of all people concerned in the matter of accomplishing anything in public health. It has been my observation in the past that we have been pulling in opposite directions and not accomplishing much, and we are just awakening to the idea that we must start to pull together in the right direction. Dr. Sadlier's relation of the conditions in Long Island should be an inspiration to anybody or to any organization on what can be accomplished. It is just following out the old prophecy of Pasteur in that every infectious disease will ultimately be mastered. I think we are beginning

to realize that more and more, and, probably, after we have gone through with a concerted effort in the management of the infectious diseases and the prevention of diseases in general, we might go a step further in the direction of preventing things in a hereditary way. That is something in the future. Not in the way of birth control, which the Illinois Medical Society does not foster; nor anything of that character; but in the way of proper selection.

In our own legislature they are considering the sterilization of the insane. I happened to be on the committee years ago to look into this particular matter and it is one that must be handled with a great deal of study and a great deal of thought so as not to get into a condition of abusing that particular law.

The medical profession, lay organizations and the public health must work in unison in order to accomplish anything in the future. We have in the last 50 years learned enough for the benefit of humanity to tell it to them in a straight-forward manner now, so that they will appreciate what the medical profession and medical science can do for them and is willing to do for them. We are our brother's keeper and we are the watch-dogs of the health of our fellow beings.

It has been a great pleasure to have listened to Dr. Sadlier's paper. I have had some correspondence with the doctor, but it will be a pleasure to meet him personally.

Dr. Sadlier, in response: With reference to the suggestion I made about the lack of cooperation by the younger men in conducting periodic health examinations, I would like to say that about three weeks ago I had a little dinner down at the Biltmore Hotel in New York city. I had congregated together a number of the leading men in the medical society of the state of New York. And the thought came out from them, not from me, although it had been an observation of mine, that we were selling periodic health examination to the men who had been in active operation for ten, twenty or thirty years very well, but something was lacking in getting it over with the younger men, the very men whom we need to put it over to, and the men who should be doing it. And it was suggested to me at that particular meeting that I should take this matter up with the deans of the various medical colleges in the State of New York, and see if something cannot be done to impress upon the medical students the necessity of taking this over. But, of course, I think we are all agreed that the question of periodic health examination is not being sold as fast as it should over this country. It is rather lagging.

In reference to the doctor's inquiry with reference to the Milbank Foundation, he has a rather mistaken idea. It is a great foundation in the State of New York, which actually supplies the money, and the State Charities Aid Association, which is the greatest volunteer organization in the state, carries on the survey work for them.

## THE DIAGNOSIS AND TREATMENT OF BLADDER TUMORS\*

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CHICAGO

Since vesical neoplasms are attended with but few symptoms in their early development, they are usually far advanced before they manifest their existence.

Notwithstanding the fact that since Nitze introduced the cystoscope in 1879 each succeeding year has seen a distinct improvement in our diagnostic acumen, the treatment of malignancies of the bladder remains one of the most unsettled problems of urology.

It is well known that one brutal fact dominates the surgery of cancer: the frequency of its recurrence or of its reinoculation in the sound. The fact that radium, x-ray and diathermy are replacing the methods of excising cancer in accessible regions is significant. Since bladder tumors can be destroyed either transurethrally with an operating cystoscope, or through a suprapubic incision, their management is comparable to the more accessible malignancies that occur in other parts of the body, and as a consequence the same methods of destroying them are applied.

### CLASSIFICATION OF BLADDER TUMORS

The following classification as originally proposed by Kuester and Albarran, with an additional modification made by myself, is useful:

#### I. NEOPLASM.

##### 1. TUMORS OF CONNECTIVE TISSUE ORIGIN.

###### A. Benign

Fibroma  
Myoma  
Fibromyoma  
Leiomyoma  
Angioma  
Rhabdomyoma  
Myxoma  
Chondroma

###### B. Malignant

Sarcoma  
Fibromyxosarcoma  
Rhabdomyosarcoma

##### 2. TUMORS OF EPITHELIAL ORIGIN.

###### A. Benign

Adenoma  
Papilloma  
Cystic Tumors

\*Read before the Illinois State Medical Society, Moline, May 31, June 1 and 2, 1927.



**B. Malignant****Carcinoma—**

- a. Adeno
- b. Squamous
- c. Scirrhus
- d. Papillary

**3. TUMORS OF OBSCURE ORIGIN**

- Hydatid cysts
- Dermoid cysts
- Cholesteatoma

**II. GRANULOMA.****4. TUMORS OF INFECTIVE ORIGIN**

- Secondary lues—condyloma
- Tertiary lues—gumma

About 90 per cent of all bladder tumors arise from the mucous membrane and as a consequence are of the epithelial type. They are—

- 1. Simple benign papillomata
- 2. Carcinomata—
  - a. Papillary type
  - b. Infiltrating type

The trend of opinion today is to consider the majority of papillomata as malignant. The evidence is rather strong in favor of the view that a benign papilloma may, and frequently does, undergo malignant degeneration. After removal of a papilloma the recurrence is often of a malignant type. Operative trauma, either from excision or fulguration (incomplete sparking), seems capable of instigating malignant changes. This transitional tendency, i. e., from a benignancy to a malignancy, which this class of tumors presents is an important factor in determining the method that should be used in destroying them.

Owing to the poor lymphatic supply of the bladder wall, tumors metastasize slowly, but when metastasis occurs it is found in the inguinal and retroperitoneal nodes, the lungs, liver and bones. However, life is most seriously endangered from the infectious lesions of the kidneys produced by the ureteral and vesical neck obstruction.

**Location:** About 50 per cent of these tumors are found near the ureteral orifices and on the posterior wall immediately back of the trigone. They may be found, however, on practically any surface.

**Age:** We have been taught that all papillomata are potentially malignant, and that this malignancy increases as age advances. While this is true in a measure, we must not lose sight of the fact that malignancy appears in the young as well as in those of more advanced years.

**Symptoms:** The cardinal symptom of vesical

tumor is hematuria. It has been likened to "a bolt from a clear sky." Its absence, however, does not rule out bladder tumor. The bleeding may be scanty or profuse, and it is often increased by lifting or exercise. When a tumor is situated near the internal urethral orifice bleeding may accompany each act of urination. The voided urine may be light red or coffee-ground in color, the latter being due to bladder retention which allows the clots to disintegrate. When a tumor mass obstructs the internal urethral or either of the ureteral orifices a chronic cystitis, or a pyelonephritis is often the first symptom noted.

In the absence of a positive source of infection the presence of a severe cystitis is often indicative of a malignant condition.

Pain is due to irritation of the nerve filaments by the growth. It frequently occurs early when the tumor is situated near the ureteral openings, because of the abundant nerve supply in this region.

**Diagnosis:** Cystoscopy is the only accurate method of diagnosing bladder trouble. Perhaps there is no modern diagnostic procedure that is held in such disrepute as is cystoscopy. The average physician is loath to take advantage of this accurate diagnostic procedure for fear of causing additional pain and suffering to the already suffering patient.

It has been our practice to carefully prepare all patients for cystoscopic examination as follows: One hour before the procedure is to be carried out a suppository containing one-fourth grain each of extract of opium and extract of belladonna is inserted in the rectum, and one-half hour before the examination one-third grain of pantopon is given hypodermically. Five minutes prior to examination the urethra is thoroughly anesthetized with a solution containing 1½ per cent each cocain and sodium bicarbonate. This alkaline solution enables the cocain to penetrate the mucosa more deeply, with a minimum toxic effect. A cystoscopy performed following this preparation is practically painless. Following the procedure we routinely use the opium and belladonna suppositories every four to six hours for twenty-four hours, which makes the post-cystoscopic period a comfort instead of a nightmare.

The average patient with a vesical tumor, if

seen early, does not look or feel sick. It is only after an attack of hematuria that they become alarmed. During these attacks the patient is fortunate if his or her physician seizes the opportunity to have a cystoscopic examination made and the bleeding investigated, instead of prescribing some placebo which will give the patient a false sense of security until another hemorrhage occurs.

The salient features of a malignant neoplasm of the bladder, as viewed through a cystoscope, are:

1. The transition of a papillomatous tumor into a sessile growth.

2. Early necrosis or erosion of a tumor mass that has not been fulgurated.

3. Presence of accessory tumors slightly adjacent to a central tumor, which may or may not be associated with bullous edema.

It is often impossible in the cases in which a cystoscopic examination is made early to determine whether the papilloma is benign or malignant.

*Diagnostic Excision:* A biopsy is the only accurate method of determining the benignancy or malignancy of a given tumor. However, the prevention of metastasis should ever be kept in mind in selecting the method for taking tissue for diagnostic purposes. It seems best not to attempt to excise a piece of tumor tissue if the mere excision may be the cause of transplantation metastasis, and the cautery offers the only ideal means of securing tissue for biopsy.

*Palpation:* No examination is complete without a careful palpation of the mass, if possible, through the vagina or rectum. An apparently benign tumor can often be felt infiltrating the bladder wall.

*Treatment:* Of all the physical means employed in the destruction of pathological tissue the only certain method is heat. In the attack on the cancer cell with heat we must bear in mind that pathological cells offer less resistance to all destructive agents than do normal cells. This lowered vitality of the cancer cells dominates the whole question of the local treatment of cancer by heat.

In diathermy we have an ideal method of producing heat in the depths of the tissue. Utilized either as desiccation or deep thermo-electric coagulation, it is being used with signal success

in destroying accessible malignant growths in all parts of the body by progressive surgeons everywhere. It is my intention to present to you two methods of destroying vesical tumors, both of which have been used for the last nine years by my associate, Vincent J. O'Connor, and myself. We believe that no tumor, whether benign, potentially malignant or malignant should be excised. If diathermy is not available the electrically heated soldering iron is superior to any cutting instrument. The results obtained by us are due to the technic which I will describe.

By means of the special diathermy operative cystoscope and a suprapubic exposure of the bladder, tumors therein situated are as easily destroyed as accessible neoplasms in other parts of the body, and the ultimate cure is in direct proportion to the duration and size of the growth. The earlier the tumor is destroyed the more certain one is of success. As all epithelial new-growths of the bladder are potentially malignant, our aim should be to thoroughly destroy the neoplasm, if possible, at the first opportunity.

From our experience we have formulated the following classification as a guide to treatment:

1. *Benign papillomata* (apparently so on cystoscopic examination). If there are but few papillomata and they are easily accessible, transurethral thermo-electrocoagulation (diathermy) should be employed, using the bipolar method and the diathermy operating cystoscope.

2. *Multiple benign papillomata and tumors inaccessible transurethrally.* Suprapubic cystotomy, followed by thermo-electrocoagulation (diathermy), with the bipolar current, is the method of choice.

3. *Carcinomata.* These tumors are treated by the same method as multiple papillomata, excepting that the diathermy coagulation is carried out more slowly and a wider area of apparently normal tissue is included in the destruction.

4. *Tumors involving the ureteral ostium.* As the ureter passes in a diagonal course through the bladder wall it is possible to "burn it back," destroying the tumor and at the same time preserving the function of the ureter. As a consequence tumors situated near the ureteral ostii are destroyed in precisely the same manner as tumors in other parts of the bladder.

*Anesthesia:* In the endeavor to keep the patient quiet, fully relaxed and free from pain, we



have found scopolamin-morphin anesthesia ideal for this class of work. As a rule we give 1/6

young adults, under thirty years of age. Nitrous-oxid is preferable.

With the usual pre-operative preparation a suprapubic cystotomy incision is made and the

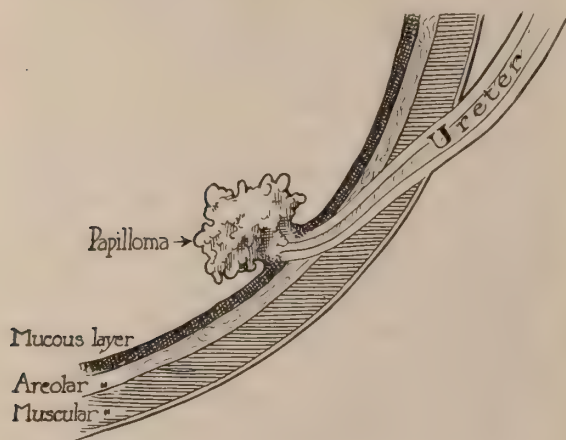


Fig. 1. Papilloma involving ureteral orifice

grain morphin and 1/150 grain scopolamin at 6:30, 7:30 and 8:30, a. m. when the operation is to be performed at 9 a. m. This method of anesthesia allows a slow, deliberate coagulation of the tumor area and repeated washing of the bladder for more careful inspection.

#### LOCATION OF THE TUMOR IN RELATION TO THE POSITION OF THE INACTIVE ELECTRODE

If the tumor is located in the lower half of the bladder we place the inactive electrode beneath the sacrum. If in the upper half of the bladder the inactive electrode is placed over the bladder just back of the symphysis. This permits the passage of the current in a direct line between the active and inactive electrodes, and thus insures better heat penetration.

The tumor, as well as its base and some of the surrounding normal mucosa are "cooked white." In no instance should sparking with resulting carbonization take place, as heat penetration is desired rather than superficial destruction with carbonization, as has been the custom heretofore.

We wish to emphasize that pathological cells offer less resistance to heat than do normal cells, and if we expect to completely and successfully destroy a slumbering malignant growth we must infuse heat into every part of it.

If, after long and careful coagulation, the tumor disappears only to recur after several months no time should be lost in performing a suprapubic cystotomy, followed by a more thorough application of heat with a flat electrode.

*Anesthesia:* We have found that scopolamin-morphin anesthesia does not work well with



Fig. 2. Suprapubic Cystotomy Thermo-electrocoagulation (Diathermy)

bladder is mobilized as completely as possible. When this is completed the patient is put in the Trendelenburg position and the bladder opened. At this point and from here on every effort should be made to avoid transplanting tumor cells on raw and cut surfaces. Towels should be placed over all open surfaces and kept there until the tumor is destroyed and its base well coagulated.

*Destruction of the Tumor.* When the tumor or tumors have an elongated pedicle, we have frequently placed a noose around the pedicle, drawn it tight and then severed the pedicle by means of the diathermy knife (active electrode). Later the stalk is treated by a thorough infusion of heat, using a flat, active electrode 2.5 cm. in diameter, taking great care to not only treat the base but to go well outside of any evident tumor growth.

It has been our endeavor to make thermo-electrocoagulation a safe procedure. There is always a question as to how much one dares to coagulate without perforating the bladder wall. We have found that the gloved finger in the vagina or the rectum may be held immediately beneath the tumor and will give a fairly accurate index of heat penetration. When the heat can no longer be tolerated by the gloved finger the coagulation is discontinued. Heat induction may be resumed if the entire area is not sufficiently coag-

ulated, but it must be discontinued as soon as it reaches the extent of tolerance to the gloved finger.



Fig. 3. Papilloma destroyed with ureteral opening "burned back"

All coagulation must be done slowly. Sufficient time must be given to heat not only the part of the bladder wall known to be involved, but also any part that one suspects might possibly be involved.

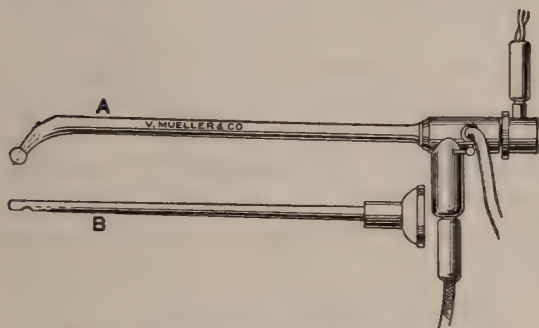


Fig. 4. Diathermy operative cystoscope

**Diathermy Machine.** The question of an efficient machine is of prime importance in destroying bladder tumors. The small, portable apparatus is usually inadequate where massive coagulation is desired. It is imperative that the machine shall deliver around 800,000 oscillations per second, or a wave length of 375 meters. With proper electrodes for conveying the heat radiation to the part involved the procedure of coagulating the tumor is only a matter of experience.

30 North Michigan Ave.

## RESULTS IN THE TREATMENT OF CANCER OF THE BLADDER\*

VINCENT J. O'CONOR, M. D.

CHICAGO

In 1919, my associate, Dr. B. C. Corbus, began his work on the electrocoagulation of accessible neoplasms, utilizing the more modern high frequency machine for the procedure. At this time "Diathermy" was coming into prominence in some of the foreign clinics, especially London and Berlin. Although Nagelschmidt and Doyen had been advocating similar methods for some time, other than fulguration, there were but few urologists interested in this procedure in this country and their ideas of technique, suitable instruments and mode of application were at wide variance. The work of these men had attracted but scant attention and had received little or no approbation from urologists or surgeons in general. Other than Corbus the most persistent workers in the general application of this modern thermic destruction of malignancy were Clark of Philadelphia and Wyeth of New York. Kolischer of Chicago was the only other urologist of note interested in this method and he was combining diathermy treatment with radium and roentgen ray therapy.

In 1920 I became associated with Dr. Corbus in this work. Thoroughly discouraged with the results of radical excision, and radiation therapy, I had come to the conclusion that, except for the very rare case of early carcinoma in the dome of the bladder, amelioration of the patient's symptoms was the usual extent of surgical achievement.

Our experimental work with animals and our earlier clinical observations led us to draw certain conclusions which differed considerably from prevailing ideas as to the proper handling of these patients. These conclusions have been summarized in the preceding paper by Dr. Corbus.

Statistical reviews of end results in the treatment of malignancy in general are usually unsatisfactory in that they are never final. One can, however, make certain valuable deductions after a sufficient period of time which enable him to draw definite comparison between both

\*Read before Section on Surgery, Illinois State Medical Society, June 2, 1927.



the immediate and remote advantages or disadvantages of various modes of treatment. If honest careful deductions are made over a period of years, one can also conclude as to approximately what is to be expected of a certain method in an average group of patients.

With this intent, I have reviewed and followed fifty patients with carcinoma of the bladder originally seen during the period from May 1, 1919, to July 1, 1926. No cases treated in the past eleven months are included in this report.

While we believe that all papillomata of the bladder are potentially malignant, no case of what is ordinarily considered papilloma not obviously or microscopically undergoing malignant degeneration, has been included in this series. In brief, the fifty patients studied had malignancy of the urinary bladder of varying duration and extent and all were subjected to but one method of treatment: slow, deep electro coagulation of the tumor bearing areas without sparking or carbonization. No supplementary radiation was used.

Sex: Thirty-two were males and eighteen were females.

Age:—

- 20-30 yrs.— 3 patients.
- 30-40 yrs.— 6 patients.
- 40-50 yrs.— 6 patients.
- 50-60 yrs.—17 patients.
- 60-70 yrs.—12 patients.
- 70- yrs.— 6 patients.

*Duration of Symptoms:* This varied from three days to six years before coming under our observation. The average time from the original hematuria or disturbed urinary function until cystoscopic examination was eleven months. This seems to emphasize the neglect of hematuria as a serious symptom since forty-two of these patients were under a physician's care before coming to us.

*Location and Number of Tumors:* The tumor bearing areas were classified as single in thirty-three, multiple in eleven and diffusely infiltrating in six. In seven the lateral walls alone were involved; in nine various portions of trigone and lateral walls; in thirty the region of the trigone and bladder floor alone; in three the lateral walls and fundus were involved and in one the growth was confined to the fundus or dome of the bladder.

*Involvement of Ureteral Orifices.*

Both ureteral orifices were involved or obscured by the growth in five cases; the right ureter in eight and the left ureter in eleven.

*Previous Operation* before coming under our observation.

Eight of these patients had been operated upon before the present observation. The character of these operations were:

Suprapubic cystotomy with scalpel excision of tumor, 5 cases.

Suprapubic prostatectomy with actual cauterization of tumor, 2 cases.

Suprapubic cystotomy with fulguration of tumor, 1 case.

*Procedure of Treatment:* Nine cases had transurethral treatment only; seven cases were subjected to a combination of transurethral and suprapubic treatment and thirty-four had suprapubic diathermy alone.

It is our custom after suprapubic coagulation of a vesical tumor to institute routine cystoscopic examinations at frequent intervals. After eight or ten weeks any area suspicious of malignancy is immediately subjected to thorough transurethral diathermy.

*Operative Mortality:* There were four hospital deaths in this series:

1. Forty-eight hours postoperative dilatation of stomach.
2. Forty-eight hours postoperative bilateral ureteral occlusion and uremia.
3. Seventy-two hours postoperative (after transurethral diathermy) cerebral embolism.
4. Ten days postoperative from myocardial insufficiency.

The immediate operative mortality, therefore, was 8 per cent.

The remaining forty-six patients I have classified as:

A. Unsuccessful as to cure.

B. Patients symptomatically and objectively well.

*Uncured Cases:* These comprise twenty-six patients. Twenty have died and six have had inoperable recurrence or metastases.

The length of life after operation varied as follows:

Seven to nine months:.....	2 patients.	
Nine months to one year:.....	6 "	(2 still living.)
One year to sixteen months:.....	7 "	(1 still living.)
Sixteen months to 20 months:.....	8 "	(8 still living.)
Two years or more:.....	3 "	

*Patients Apparently Well:* Of this series, there are twenty patients symptomatically well and with negative cystoscopic findings.

*Duration of Freedom from Recurrence.**More than:*

8 years—1 patient	
7 " 1 "	
6 " 2 "	
5 " 4 "	
4 " 2 "	
3 " 4 "	
2 " 2 "	
1 " 3 "	

All of these patients have been examined cystoscopically during the past three months. The majority have been examined every three to six months since operation.

Of the 20 cases in which no recurrence has taken place, all were clinically and objectively malignant. Of these, fifteen were verified by microscopic examination. Sixteen of the 20 cases had trigonal and ureteric orifice involvement. In 13 patients, one or both ureteral orifices were involved in the coagulated area. In one instance, the resultant cicatrix caused complete occlusion of the ureter necessitating nephro-ureterectomy 2 years later. This patient is alive and well, 5 years after operation. In 3 other patients it was necessary to progressively dilate the ureter to prevent stricture at the orifice. The remaining nine patients had patulous "burned back" ureteral orifices.

*Postoperative Complications from the Coagulation Effect.*

In one patient there was a profuse postoperative duodenal hemorrhage 48 hours after coagulation of an extensive infiltrating tumor. This, we believe, to be due to an acute ulceration comparable to that occasionally seen in extensive cutaneous burns. This patient recovered after transfusion and dietary management and is living and well more than 4 years after operation.

In only one patient was the bladder wall perforated. This man developed a vesico-rectal fistula ten days postoperative and succumbed to general sepsis and myocarditis.

The most important postoperative complication to be avoided is that of sealing off the ureteral openings. This occurred in two patients and was the direct cause of death in one of them.

One of the most noteworthy results of diathermic treatment in tumor of the bladder as compared with excision or radium is the postoperative comfort of the patient. Whereas in our experience radium and resection decrease the bladder capacity and increase vesical irritability,

diathermy brings about an increased bladder capacity and lessened irritability. The hospitalization of these patients is shortened, the suprapubic incisions heal in from 12 to 21 days and the immediate bladder function, whether subsequent recurrence of tumor occurs or not, is a distinct relief to the patient as compared with the older methods.

Of the 20 patients classified as "apparently cured" the smallest bladder capacity is six ounces and practically all have regained normal capacity and are free from distressing urinary symptoms.

I wish to cite a few case histories, descriptive of the successful management of these cases:

Case 1. Mrs. I. P., aged 36 years, housewife, was referred by Dr. Danforth on May 1, 1919. She gave a history of frequent urination and dysuria for the past fourteen months. Bloody urine had persisted for three months. General health otherwise excellent. Cystoscopy showed a papillary tumor 6 cm. in diameter just about the right ureteral orifice. The apex of the tumor showed definite necrosis and the mass was surrounded by diffuse ulcerations. At the base of this tumor, but posterior and superior to this region were four papillary tumors about 0.5 cm. in diameter.

Transurethral fulguration of these tumor-bearing areas was performed repeatedly from May until September. During this time there were many slight hemorrhages and finally a rather profuse one occurred so that it was deemed advisable to open the bladder and deal more radically with the tumors. Operation was performed on October 23, 1919, at the Evanston Hospital. A suprapubic cystotomy under gas and oxygen anesthesia was performed. Massive coagulation by diathermy and the largest growth was removed at its base with the actual cautery, followed by diathermic coagulation. Microscopic diagnosis (Dr. J. L. Williams) was papillary carcinoma of the bladder. Convalescence was uneventful, the patient urinating normally on the twentieth day. This patient is absolutely well, bladder capacity is normal and she has had no recurrence as indicated by normal cystoscopic findings and her continued excellent general health. It is now seven years and eight months since operation.

Case 2. Maria G., aged 61 years, housewife, was referred by Dr. John G. O'Malley on November 5, 1921, complaining of frequency of urination for ten years. Hematuria for three years. Two years previously she had a suprapubic operation at Mercy Hospital, with excision of "papilloma" and cauterization of the base. Profuse hemorrhage recurred in three months. The patient stated that she could no longer tolerate her condition. Urination every few minutes was accompanied with severe pain. Her general health was excellent. Plain x-rays showed no evidence of bone metastases. Cystoscopy showed a bladder capacity of one ounce. The bladder was filled with tumor



masses, ulcerating and necrotic and there was marked bulbous edema everywhere.

Operation on November 10, 1921, at the Washington Boulevard Hospital under gas and oxygen anesthesia, A transperitoneal approach to the bladder was necessitated owing to the previous operations. When the bladder was opened, tumor tissue was evulsed into the entire wound; this occurred in the manner in which the fruity part of an orange would be expelled when the peeling was pressed upon. It seemed futile to attempt any procedure with these extensive tumor mass areas and in the presence of such a markedly contracted bladder. However, all of the accessible masses were coagulated with a very high degree of heat. At the completion of this procedure, the interior of the bladder was so hot that it was with difficulty that the gloved finger could be held therein.

Microscopic diagnosis (Dr. Mary Lincoln) was papillary carcinoma of the bladder. The patient made an excellent operative recovery and left the hospital in three weeks with a bladder capacity of three ounces. Cystoscopy at this time showed two necrotic, papillary masses on the left floor of the trigone about the left ureteral orifice.

Transurethral diathermy was administered on three occasions. At the end of one month, after the last coagulation, the patient returned, stating that she was in splendid health and that she could retain the urine four hours without voiding. Cystoscopy showed that the area of previous involvement that had been treated had healed completely and that there remained only one area of tumor growth. This was situated on the antero-superior wall just above the internal vesical orifice and was inaccessible to any transcystoscopic manipulation.

Because of the exceedingly remarkable improvement and the fact that this patient was symptomatically well after what appeared to be an utterly hopeless case, we decided to make a final attempt to destroy the last apparent bit of cancer tissue, since there was no evidence of metastasis.

Operation was performed on March 23, 1922, under scopolamin and morphin anesthesia. A very difficult transperitoneal cystotomy was done and the contracted bladder opened above in such a way that the carcinomatous area at the bladder neck was thoroughly coagulated by diathermy. The patient made a good recovery and has enjoyed excellent health ever since. She now has a bladder capacity of fourteen ounces, both ureters have been "burned back," but although large and gaping, they have good ejectile tone. She voids once at night and from four to five times each day.

Cystoscopic examination on May 9, 1927, showed no evidence of recurrence. It is now five years and three months since the last operation.

Case 3. John B., aged 68 years, glass cutter, referred by Dr. Torpey, always in good health until June, 1921, when he had an attack of profuse painless hematuria. No further trouble until June, 1922, when the hematuria recurred.

Cystoscopy on June 25, 1922, showed a very large,

sessile, papillary tumor occupying the entire right trigone and obliterating the right ureteral orifice.

Operation at the Evanston Hospital on June 30, 1922. A suprapubic cystotomy under scopolamin and morphin and local anesthesia. The entire tumor-bearing area was coagulated very slowly by high current diathermy.

Microscopic Diagnosis: (Dr. J. L. Williams) Papillary carcinoma of the bladder.

Convalescence was uneventful. Patient has been perfectly well with the exception of acute right pyelitis four months after leaving the hospital. At that time it was found that the ureteral orifice was constricted by the scar tissue, causing a temporary obstruction. This area was slit with an operating transcystoscopic scissors and subsequently dilated with ureteral bougies and no further trouble of this nature has resulted.

At the present time the patient is in excellent health and there is no sign of local recurrence as evidenced by cystoscopic examination on April 15, 1927. Present bladder capacity is six ounces. Nocturia once or twice. It is now five years since operation.

Case 4. Ella S., aged 48 years, housewife, was referred by Dr. S. Slaymaker January 15, 1923, complaining of intermittent hematuria for the past nine years. During this time her family doctor had been treating her for "papilloma of the bladder" by washing out the viscous with antiseptic solutions. Recent developments of pain and frequency made her seek further advice. Her general health had been excellent.

Cystoscopy showed an infiltrating necrotic tumor invasion of the floor and lateral wall of the bladder just posterior to the left ureteral orifice but not directly involving it. This mass occupied a segment of bladder equal to one-quarter of its circumference.

Vaginal examination showed a hard indurated mass in the region described above, but there was no encroachment on the anterior vaginal wall. Plain x-rays showed no evidence of bone metastases.

Operation was performed at the Washington Boulevard Hospital on January 20, 1923, under scopolamin and morphin anesthesia. A suprapubic cystotomy was done transperitoneally because of the adhesency of the peritoneum over the entire left lateral bladder wall. It was possible to free this entire mass to the extent of making it accessible to deep slow coagulation by diathermy. It was obvious that the only way to destroy this growth was to coagulate it en masse and let it slough out.

Healing was completed on the fortieth day post-operative.

Microscopic Diagnosis: (Dr. Mary Lincoln) Scirrhous and papillary carcinoma of the bladder.

This patient is absolutely well and without recurrence. Bladder capacity is fifteen ounces and she has no urinary symptoms.

Cystoscopy on May 10, 1927, showed normal bladder with normally functioning ureteral orifices. Patient now weighs forty-two pounds more than before operation. It is now four years and five months since operation.

These case histories are recited in detail to

show the persistence necessary, both on the part of the surgeon and the patient, to effect satisfactory end-results.

*In Conclusion.* Fifty patients with carcinoma of the urinary bladder have been carefully studied and followed clinically over a period of eight years.

While the number of patients is not large, the series is rather typical of all groups of these cases. Only one method of treatment was used in the management of these patients. Thorough, slow, deep electro-coagulation commonly known as "diathermy."

There were four immediate operative deaths—a mortality of 8 per cent.

Twenty patients are living and well without evidence of recurrence after periods varying from one to eight years. An ultimate clinical success, at least for the time being, in forty per cent of the patients.

We believe that diathermy offers a more satisfactory means of combating malignancy of the bladder than any other therapeutic procedure; not only for relieving the patient symptomatically and prolonging his life, but with a definitely measured hope of complete cure in a large percentage of cases.

30 N. Michigan Ave.

#### DISCUSSION ON DR. CORBUS' AND DR. O'CONOR'S PAPERS

Dr. John Wolfer, Chicago: I would like to ask a question. I know nothing about genito-urinary surgery, but I do know that in treating carcinoma elsewhere, one of the things we are afraid of, as far as local treatment is concerned, is the dissemination of the tumor. I understood Dr. Corbus to say that, due to the rather restricted lymphatic drainage of the bladder, metastasis are late. I would like to ask if the group of early cases of microscopically proven carcinoma yielded better results—that is if they had no recurrence, such as liver or bone metastasis—than the late cases? We have had a considerable amount of controversy regarding carcinoma of the breast, but, of course, carcinoma of the breast is a different thing from carcinoma of the bladder. Usually our recurrences are not only local recurrences but systemic recurrences.

I wish to compliment the men on their work, because the cure of that high percentage of carcinomas of the bladder is to me a very marvellous thing. I can readily see that they are doing a very wonderful piece of work and I wish to thank them.

Dr. Ciney Rich, Williamsburg, Ia.: I would like to know, aside from this, what they are doing with inoperable carcinoma of the prostate with diathermy.

Dr. Corbus, in response: Regarding the question

concerning the treatment of carcinoma of the prostate, we have advocated the method of perineal prostaticotomy with coagulation through the perineum. But we have found that a simple suprapubic cystotomy followed by coagulation of the prostatic cancer suprapubically and removing the coagulated mass with a rongeur gave us much more satisfactory results than any method we have had.

I think at the present time the treatment of carcinoma of the prostate is the only great bugbear we have to deal with. Some of our confreres are recommending radium and some of them are excising the vesicle neck together with the cancer of the prostate, the simple procedure of doing a suprapubic cystotomy and leaving the patient alone, is just as good as where more surgery has been done. The only thing favorable about carcinoma of the prostate is that it is securely held by its capsule like your finger inside of a glove, and the only way the prostatic cancer can get out is to go up toward the seminal vesicles. There are plenty of pathological reports to show that four or five years have elapsed before there was any metastasis in the bone, lungs, etc., where no treatment of any kind was instituted, and the usual consensus of opinion, I think, is that a simple suprapubic cystotomy will give about as good end results as any method we have.

Dr. O'Connor, in response: The question of dissemination of the tumor is the most vital one in the treatment of malignancies of the bladder, just as it is elsewhere. This is the one thing which possibly led us to discontinue trying to resect even those cases of carcinoma which were favorable for resection, because of the fact that recurrence somewhere in the resected area is quite frequent or distant metastasis occurred during the following year or two.

I have had considerable experience with the excision of bladder cancers in a large clinic over a period of five years and I don't recall other than two favorable cases which were followed during that period, and both of these were early papillary carcinomata in the dome in such a position that they were very easily widely resected.

One thing which diathermy does—that is, with slow coagulation, there is a complete occlusion of the vessels and lymphatics. Theoretically, at least, any chance of tumor cells getting out of that region and into the general circulation certainly is completely eliminated with the slow destructive effect. Where you spark the tumor, where you bombard it with the current, the reverse is true.

The question of treating bladder cancers and claiming that any of them are cured, of course, is like treating a cancer anywhere else. We don't claim that this 40 per cent. of patients are cured, but we have evidence as far as we have gone, that they are well. For instance, when a woman comes to you that has been operated on twice elsewhere, first with excision and then with the cold cautery suprapubically, and you find the bladder capacity 2 oz. and the woman sits on the urinal all the time, you feel that case is hopeless. But you go in there and see what seems to be a useless operation, as we have done in several instances, have



gone into the bladder filled with cancer, and we thought that there was no hope in the world for the patient, and then find that patient sloughing that tissue out and gradually reconstructing the bladder, and you cystoscope her later and find a bladder containing four or five ounces where it only held two before, and possibly just a small papillomatous area of malignant looking tissue which you destroy transurethraly and gradually that woman, over a period of four, five, or six, or seven years, has a good functioning bladder which holds ten, twelve or fourteen ounces, and no evidence of metastasis elsewhere, you begin to feel that there is some hope in a certain percentage of these cases.

Regarding the size of the tumor in metastasis, I didn't go into the question of distant metastasis in this paper as I should have done, although our record on some of the uncured cases as to their later metastasis was difficult to obtain because many of them were from out of the city or from distant parts of the country and it was hard to get a record of what actually happened to them.

A thing that impressed me about this thing is this, that the small infiltrating tumor is often one that seems to be very, very favorable, often this tumor recurs immediately after coagulation, the patient develops either a lumbar metastasis or liver metastasis or distant metastasis. Patients come to us with half of the bladder filled with a great necrotic, ulcerating tumor, and we do a cystotomy and spend an hour or two destroying that tumor and figure, of course, that you are doing nothing to palliate that patient's condition, and you will find that patient living five or six years afterwards without any evidence of recurrence elsewhere, where the patient before that had a small papillary cancer maybe in the same location only as big as the end of your thumb, develops evidence of distant metastasis at a later date.

The only thing that helps us in this work, different from treating carcinoma elsewhere, is the point Dr. Corbus has made, that the lymph supply of most portions of the bladder is very, very scant, and that is why we believe with Dr. LeCount, when he says that is the reason that we are able to get many of these cases and cure them before they have metastasized outside of the bladder. Naturally if the tumor cells do get outside of the bladder before we get after them, the cases are hopeless.

We have had this happen. We have had three or four of these cases, that have had absolutely normal bladders, so to speak; that is, the local carcinoma is held in fibrous tissue produced by the coagulation. They have had good bladder function and later died of malignancy of the lumbar glands. So that there is no rule in the cases we have had as to what you can expect from the size of the tumor.

Now, as regards Broder's classification of 1, 2, 3 and 4 malignancy, we have gone into that fully. We checked up on it as a matter of interest, and so far we don't know that there is any definite way of saying, as they do at Rochester, "Well, here is a case of bladder cancer Type 1 which is very favorable," or "Here is a case of type 4, and there is no use of

doing anything about it because, no matter what you do about it, the patient will die anyway." It may be that there is more to that than we believe, but we haven't been able to correlate our symptoms with the pathological findings as to Broder's degrees of malignancy.

## PHRENECTOMY\*

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### CHICAGO

Rest is one of the most important factors in the treatment of tuberculosis. This applies not only to rest of the individual as a whole, but to immobilization of the local site of infection. In tuberculosis of the knee or spine local rest is obtained by the application of a cast. In tuberculosis of the lung rest is obtained wherever possible by immobilization of the lung.

Compression is one of the most important factors in the treatment of cavities of the lung, of either tuberculous or nontuberculous origin. It is a well known fact that an infection in an unobliterable cavity is extremely chronic. Healing of the infection of any cavity takes place usually only after the cavity has become obliterated, either by the ingrowth of granulation tissue, shrinkage due to scar tissue, or mobilization of the wall of the cavity itself. This is true not only of the lung but of the body in general, to wit, osteomyelitic cavity, empyema cavity, infection of one of the sinuses of the face, etc. In case of a single lung abscess it is frequently possible to drain the cavity and then allow for the obliteration of the cavity either by means of granulation or by plastic procedures on the walls of the cavity. In the case of multiple cavities of the lung, or in the case of bronchiectasis simple drainage is of very little avail. Here, however, much can be done to obliterate the cavities, by collapsing the affected lung.

Both rest and obliteration of the cavities of the lung are obtained when that lung is collapsed. Collapse of the lung can be produced by three following procedures: 1, artificial pneumothorax; 2, phrenectomy; 3, extrapleural thoracoplasty.

Inasmuch as the subject of my paper is pri-

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marily the subject of phrenectomy, I will dismiss the other two of the aforementioned procedures with the following sentences. Artificial pneumothorax is the simplest of the three procedures and should always be attempted first. If artificial pneumothorax cannot be carried out because of the presence of pleural adhesions, phrenectomy should be next considered. Extrapleu-

accessory nerves. The phrenic nerve proper after being formed by the union of the branches of the three cervical roots courses outwards, curves over the lateral border of the scalenus anticus muscle, crosses the muscle from without inwards in a diagonal direction, extends downwards into the mediastinum where it is joined by its accessory nerves, courses over the lateral surface of the pericardium, and then branches to distribute itself to the homolateral half of the diaphragm. At the place where the phrenic crosses the scalenus anticus muscle, it becomes accessible to the surgeon.

Simple section of the phrenic nerve will not cause a complete paralysis because the nerve fibers running in the accessory phrenic will not be interrupted. Partial paralysis only will be caused. Crushing the phrenic nerve with the hemostat or freezing it or injecting alcohol into it, will cause a temporary partial paralysis. Evulsing the phrenic so that the fibers in the accessory phrenic nerves are injured will cause a complete and permanent paralysis.

The paralyzed diaphragm assumes a position which is about two or two and one-half inter-

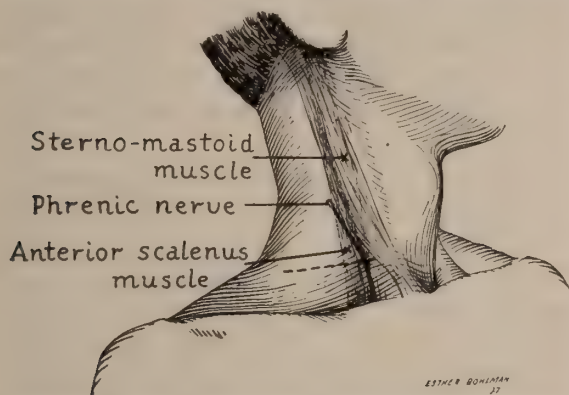


Fig. 1. Surgical anatomy of phrenic nerve in neck.

al thoracoplasty is only justifiable in those cases in which neither artificial pneumothorax or phrenectomy can bring about the desired collapse and immobilization.

The operation of phrenectomy, or better phrenico-exeresis—evulsing part of the phrenic nerve—has as its aim the unilateral paralysis of the diaphragm. When the diaphragm is paralyzed the diaphragmatic muscle loses its power of contraction and its tone. And the forces of intra-abdominal positive pressure and interthoracic negative pressure push and pull the diaphragm upward into the chest cavity until it occupies a position of extreme expiration. In this position it remains, moving almost not at all. The size of the thoracic cavity is thus encroached upon and the movements on that side are diminished. Thus, both compression and partial immobilization of the lung are obtained.

The entire motor innervation of the diaphragm is through the phrenic nerves. Each nerve controls the motion of the homolateral half of the diaphragm. There is apparently no cross innervation, nor is there any motor innervation from the contiguous intercostal nerves. The phrenic normally arises from III, IV and V cervical roots, occasionally branches come from C VI, C VII, C VIII and even T I. These branches are apt to join the main branch of the nerve in the mediastinum in the form of an accessory or

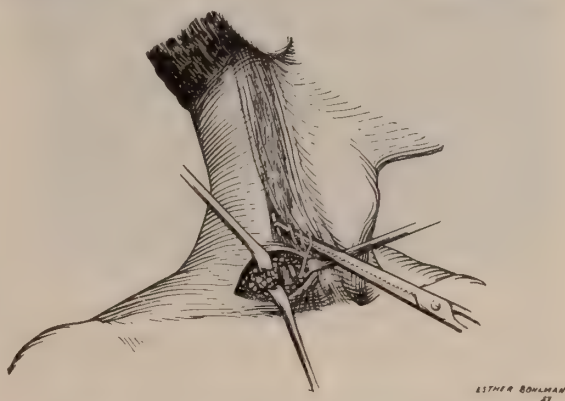


Fig. 2. Evulsion of the phrenic nerve.

spaces higher than its normal position. The amount of diminution of volume of the interthoracic space by this rise of the diaphragm in an adult varies somewhere between about 400 to 600 cubic cm. As the diaphragm muscle atrophies following loss of its motor innervation the position of the diaphragm may be even slightly higher. In cases in which there are no pleural adhesions or in which the mediastinum has not been stabilized by a chronic infection, it is probable that this diminution in the thoracic space is immediately divided between the two halves of the thoracic cavity by bulging of the medias-



tinum. However, depending upon the degree of fixation of the homolateral lung or the mediastinum, the diminution of space affects the lung on the paralyzed side.

Changes in the intra-abdominal or intrathoracic pressure affect the positions of the diaphragm so that there may be excursions during respiration, during fits of coughing, or at times of abdominal pressure. Thus the immobilization of the diaphragm is only comparative. During the cycle of respiration the paralyzed diaphragm may move in the following ways. On inspiration

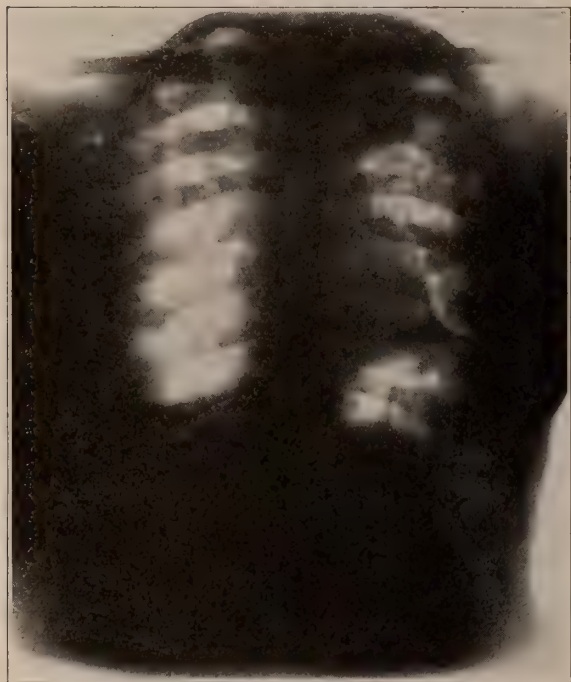


Fig. 3. Roentgenogram of case following left sided phrenico-exeresis. Note the high position of the left side of the diaphragm as compared to the right side.

it may be pulled down slightly by the tug of the normal half. On the contrary there may be the so-called paradoxical motion in which the diaphragm is sucked upwards into the thoracic cavity by the increase of negative pressure. Lastly, it may remain practically immobile due to the counteraction of the above mentioned forces, due to adhesions, or to the fact that changes in pressure are so slight as not to affect it.

The noticeable effects on the patient after phrenico-exeresis as far as it affects his ability to carry on the physiological act of respiration is concerned, is nil. The interplay of abdominal and thoracic phases of respiration are so beauti-

fully balanced that the abolition of the diaphragmatic contracture in one side causes no disturbance whatsoever. At first thought, it is surprising that following phrenectomy the act of coughing should not be difficult. Coughing is usually much easier than it was before and this can be explained by the fact that the abdominal muscles play a most important part in coughing, and that the obliteration of any diaphragmatic muscle spasm allows these muscles freer play. The fact is that as a rule one of the first benefits the patient notices is that "it is so much easier to cough."

The indications for phrenico-exeresis, as I said before, are to obtain rest and collapse of the affected lung. In a large percentage of cases in which artificial pneumothorax should be done, pleural adhesions have developed, thus making collapse of the lung by the injection of air impossible. In these cases paralyzing the diaphragm can be counted as equivalent of about 500 cc. of air. If the lesions are only in the upper lobes and if these lobes are firmly held to the chest walls by adhesions, it is doubtful if paralyzing the diaphragm will have much or any effect. If, however, the lesions are situated in the lower lobe, then the adhesions would not only act as counter pressure to the rising diaphragm but would also stabilize the mediastinum, so that the affected portion of the lung would be well collapsed and immobilized. It is in this type of case that the benefits from phrenectomy are most striking. Phrenectomy therefore is indicated where artificial pneumothorax can not be used in those rare forms of pulmonary tuberculosis in which the lesions are confined to the major portion of one lung, in unilateral bronchiectasis which is almost invariably situated at the base, in multiple unilateral lung abscesses, in single lobe abscess of the base which for some reason or other is not amenable to drainage. Phrenectomy is also of great value in certain plastic operations on the lower part of the thorax.

The technic of phrenectomy or phrenico-exeresis is simple. Under local anesthesia an incision is made about 4 cm. above the clavicle, starting near the lateral margin of the sternocleidomastoid muscle, which can be easily palpated, and extending laterally parallel to the clavicle for a distance of about 4 cm. The incision extends through the skin and the platysma muscle. It

may be necessary to ligate and cut the external jugular vein. The cervical fascia is cut, the outer border of the mastoid muscle is retracted medialward and with blunt dissection the fat pad covering the anterior scalenus muscle is dissected exposing this muscle. Care must be taken not to injure the arteries of the thyroid axis, the large veins, or on the left side, the thoracic duct. When the scalenus anticus muscle is exposed the phrenic nerve will be found, coursing diagonally across it from without inwards. The fascia over the scalenus is cut and the nerve is grasped with a hemostat. Pinching the nerve may cause a diaphragmatic spasm accompanied by slight pain. If only a temporary partial paralysis of the diaphragm is wanted, the phrenic nerve may now be crushed, frozen, or injected with alcohol. However, for complete and permanent paralysis the nerve must be evulsed. This is done by cutting the nerve proximal to the hemostat and then evulsing the nerve by slowly turning the hemostat in such a way that the nerve is wound around it. From three to six inches should be evulsed. By doing this not only is the phrenic nerve itself injured but the accessory branches are destroyed. The diaphragm will become paralyzed immediately, assume its high position and may be immobilized. The skin wound is closed with three or four skin clips, without drainage. No special aftercare is necessary. The patient continues to be ambulatory.

#### SUMMARY

The operation of phrenico-exeresis consists in interrupting the course of the phrenic nerve by locating the nerve in the neck where it crosses the scalenus anticus muscle and evulsing it.

The result following phrenectomy is a homolateral paralysis of the diaphragm, causing a high position of the diaphragm, and a practical immobility.

Phrenectomy may be indicated in unilateral tuberculosis, lung abscess, bronchiectasis, or unilateral pulmonary hemorrhage, where artificial pneumothorax would be indicated but cannot be used. It is also frequently used along with other plastic procedures, such as extrapleural thoracoplasty.

Paralysis of the diaphragm, in short, with its resultant high position and immobilization tends to compress and immobilize the lung on the same side; this is especially true in those cases in

which adhesions tend to immobilize the mediastinum.

#### DISCUSSION

Dr. Earl D. Wise, Champaign: The interesting trend of thought that this paper brings up is the way that the surgical treatment of pulmonary tuberculosis has been developed. It is only in recent years that the sanatorium doctors have called upon the surgeons for any help in the treatment of this disease. One of the newer of these surgical procedures is that which Dr. Bettman has advanced, that of phrenectomy. There have been many reasons advanced for the use of this surgical procedure; nevertheless, I think we should not be too hastily carried away, thinking it would tend to be a cure-all for tuberculosis. We have used this as an aid in pneumothorax. You get rest of the lung more completely and uniformly and it tends to keep out the irritating cause due to basal adhesions. I might say that there is practically no contraindications to this operative procedure. The only think I can think of that any operative procedure is needed at all would be in advanced lesions in the opposite lung.

The surgical procedure is simple. The nerve is so easily found and it is done under local anesthesia so completely. It is easy to recognize the nerve by grabbing hold of it with the forceps and you get the impulse of pain in the shoulder, and that is one way of recognizing the nerve.

We have used this method of exeresis in preference to merely cutting out a section of the nerve, because it does away with our necessity of recognizing the accessory phrenic nerve.

Twisting the nerve must be done very slowly—just a revolution in something like half a minute or a minute.

In conclusion, I would say that this a newcomer in the surgical treatment of tuberculosis. And, while it is too new to pass final judgment on, it really offers an aid in getting lung compression and lung rest in these cases.

I wish to express my appreciation to Dr. Bettman for having heard the paper.

#### THE HEALING OF PEPTIC ULCER\*

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CHICAGO

The problem of healing of peptic ulcer has a never abating interest because a large part of the population of the United States are afflicted with dyspepsia in one form or another, and of this the majority doubtless have some definite lesion in the gastro-intestinal tract.

The clinician in dealing with peptic ulcer confronts certain difficulties, even after the diagnostic obstacles have been overcome, most of which center around the management to insure healing

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of the lesion and permanent symptomatic relief.

These difficulties are enhanced when one bears in mind the rather confusing course frequently seen in peptic ulcer, spontaneous remissions and intervals of comparative well-being occurring irrespective of the severity or type of lesion and without regard to therapy.

It is generally known that certain ulcers do not produce any symptoms likely to attract attention to their presence, so that in obtaining histories of recent disease we are never certain that a definite pathologic lesion has not existed for a long time. From this it can readily be appreciated that statistics based on symptomatic relief and subjective improvement are necessarily misleading, for we know from the behavior of ulcers that favorable subjective response is not always synonymous with repair.

It is necessary to refer briefly to the etiology and underlying pathology of ulcer before considering some of the factors which promote healing as well as those that retard healing.

*Etiology and Pathology.*—It is rather unfortunate that modern scientific research still leaves us in uncertainty as regards the etiology of peptic ulcer, but this status must not be allowed to act as a deterrent to clinical investigation.

As a working hypothesis we can assume with a reasonable degree of scientific accuracy that in ulcer we have to deal with a biochemical change affecting the highly specialized cell concerned in the process of digestion in a manner to lower resistance to external influences of a character to initiate the changes which result in ulcer formation. The acceptance of a dormant cellular fault as the underlying factor of cell response to trauma, renders lucid our understanding and the proper evaluation of the relation of these influences to ulcer production. Perhaps we can phrase this theory better by stating, that in individuals with normal cells dietary indiscretions are negligible factors, but vitamin deficiencies in relation to cell chemistry assume significance as a possible specific factor in cell vulnerability. To this must be added the anatomical and nutritional peculiarities of that area in which ulcer formation is most often encountered, peculiarities which are conducive to stagnation, chemical and mechanical trauma, on the basis of which bacterial invasion aided by neurogenic and sys-

temic influences increase irritation with a resultant histological defect.

It is admitted that all these factors in themselves are not sufficient to produce demonstrable ulcer in a healthy mucosa, but when these factors are brought to bear on a potentially defective cell, disintegration and necrosis are almost certain to take place. We can narrow all that has been said down to an axiom: Two fundamental factors are responsible for ulcer formation, namely, cell susceptibility and cell irritation.

Once a defect in the wall of the digestive apparatus has been established, the outcome is uncertain. Resolution and spontaneous healing are not impossible, but the clinician, as a rule, sees only such cases which have a progressive tendency, resulting in marked perversion of function due to structural damage of the stomach and adjacent viscera. This type of cases gives rise to a symptom complex, which is not easily interpreted or controlled, all of which is apt to produce confusion with the inevitable diagnostic and therapeutic pitfalls.

*Factors That Hinder Healing.*—Ulcerous erosions in the wall of the stomach or duodenum produce incoordination of the muscular contractions, abnormal peristalsis, spasms, secretory disorders, impairment of gastric motility and consequent stagnation and delay in evacuation time. Chemical and mechanical irritation as a result of prolonged stagnation is the greatest known local factor in the hindrance of healing of peptic ulcer. When infection is active in the process, it adds to the delay in healing, and plays an important rôle in the chronicity, complications and recurrence of ulcer. In the presence of extensive pathologic changes and permanent structural damage, mechanical aid is necessary before healing can take place.

Susceptibility of the involuntary nervous system and factors that influence autonomic irritability add to the delay in healing. Here again an inherent fault is kept in mind as a possible underlying cause. We know that one's comfort and well-being depend largely on vasomotor stability and the impulses transmitted by the sympathetic nervous system. Fear and anxiety complexes can initiate impulses detrimental to vitally important organs and cause alarming symptoms which will upset the whole organism.

Allergic reactions as well as those of anaphylaxis acting on a susceptible autonomic nervous system can produce similar disturbances. One is familiar with the emotional aspects of peptic ulcer and the possibility of an allergic influence in autonomic irritability, but in the absence of a constitutional fault considerable speculation exists in regard to the degree of activity of these influences.

Faulty food, overeating, overweight and the use of excessively hot or cold drinks, sedentary habits and constipation cause more dyspepsia than all other factors. The American people drink more ice water than all other nations of the world combined. Poisonous alcoholic concoctions consumed by the people of this country have materially increased the incidence of digestive disorders and allied conditions, many of which are directly traceable to the Prohibition Act. Deaths from alcohol in Cook County alone in 1926 increased 474 per cent over a similar period of pre-prohibition time.

In connection with the failure of healing of ulcer the possibility of cancer must be kept in mind. In a cancerous family history, any dyspepsia of short duration and definite onset, without previous attack, progressive in character, with a delay in evacuation time that cannot be controlled is potentially cancerous. A mild dyspepsia may be the factor to activate a dormant susceptibility to cancer.

With a biologic conception of the origin of cancer and our understanding of the significance of continued irritation, attention is called to the importance of the family history as regards the procreation of the race and the prolongation of life. In an individual, then, with a family history of cancer, one's attention should be focused on the areas where irritation is known to occur, and preventive measures during the precancerous stage should be instituted.

Full realization of the possibilities of prevention will reduce the incidence of the dyspepsias, including ulcer and cancer, and careful scrutiny of the dyspepsias in the early stages, with proper management will tend to prevent irreparable functional and structural damage to the important organs of digestion.

In a program of intensive health conservation many deaths could be prevented and many lives salvaged by raising health ideals, by improving

habits of living and by periodic health examination.

*Factors That Promote Healing.*—Peptic ulcer heals in one or two ways: First, by primary intention if the ulcer has been successfully excised; second, by secondary intention, through the formation of granulation tissue; epithelization of the edges and scar formation. As comparatively few ulcers are excised and still fewer removed by resection the majority recover by the formation of granulation tissue. It is well to remember that it is nature that heals the ulcer and our object in therapy is to assist nature by placing the parts in a condition favorable to healing and by giving her an opportunity and sufficient time to effect healing with a firm scar. At times nature accomplishes this result without artificial aid. At other times it taxes the ingenuity of even the most resourceful clinician.

The outstanding indication for the healing of ulcer is bed rest and an accurate control of the adverse factors that influence digestive activity. During the period of intensive observation, attention is focused on the progress of repair and preservation of function irrespective of subjective response. Careful consideration is given to the human side of the patient, his emotional make-up, and to such contributory impairments as retard healing, in addition to concentration on the local conditions. Special effort is made to individualize the control to meet the indications in terms of etiology, morbid physiology and morbid anatomy.

The dietary regimen of healing includes a sustenance diet that will maintain nutritional equilibrium with due regard to the function and tolerance of the stomach. Emphasis is placed on the importance of *frequent* feedings with soft, bland food of the shortest possible evacuation time and, also, to provide an excess of fluids to combat the toxic effects of dehydration and starvation. Cod liver oil and other vitamin containing foods are added to the dietary as soon as the digestive activity is controlled.

During the time of hospitalization, as well as in the follow-up plan, accurate neutralization of the gastric contents is maintained throughout the entire twenty-four hour period, and sufficient tubings are made to enable one to have personal knowledge that this requirement is complied with. Calcium carbonate has largely supplanted



the customary alkalis as an aid in controlling gastric acidity.

Advantage is taken of such remedial measures as sedatives, stimulants, atropin, and blood transfusion. Protein therapy is used to allay autonomic irritability and to stimulate natural body defenses.

An important factor in the medical control of ulcer is a well-planned follow-up program that has for its object continued supervision of the progress of repair over a period of time that is reckoned in terms of underlying pathology and its response to management, rather than in weeks or months. During infections of any kind immediate steps are taken to protect the sensitive scar.

The symptomatic response to impairments of vital organs is often reflected by sensitiveness of the gastrointestinal tract. Diseases of the heart and lungs, kidneys and nervous system, may come disguised as dyspepsia, so that a comprehensive physical survey is imperative as a preliminary procedure in the repair of ulcer.

*Evidence of Healing.*—It is comparatively easy to, and most any physician can, control the symptoms in the average case of peptic ulcer, but, of course, symptomatic relief alone is not our ideal aim. Favorable symptomatic response is presumptive, but not positive evidence of healing. Positive evidence of healing is an objective finding. Spontaneous remission in symptoms may begin at the very onset of medical therapy, as it can follow a gastro-enterostomy, without any actual healing. This distinction is a great factor in the success or failure of ulcer control.

In considering the evidence of healing the co-operation of the roentgenologist is essential. The value of a carefully interpreted skiagraph and screen observation as an aid in diagnosis is not to be underrated. In the determination of the type of ulcer, its location, the presence or absence of complications, and as evidence of healing, roentgenology is our most valuable handmaid. In fact, fluoroscopic observation of the progress of repair is of paramount importance, and when it corresponds favorably with subjective improvement and laboratory findings, it becomes convincing evidence that healing is rewarding our efforts. When the ulcer is located proximal to the pylorus positive evidence of healing can be obtained by the use of the gastroscope.

The study of pathology in the surgical arena as well as in the postmortem room presents incontrovertible evidence of healing. We have, then, suggestive clinical, convincing roentgenological and positive gastroscopic and anatomical evidence that ulcers do heal!

#### COMMENT

In the conservative therapy of peptic ulcer emphasis is placed on prevention, early and accurate diagnosis, and careful consideration of the type of lesion, its location and extent of structural damage, and of such complications that respond to medical therapy and afford reasonable assurance of healing. Attention is called to the distinction between evidence of healing and spontaneous remissions, and the importance of a follow-up system in order to prevent recurrences. An extended period of health supervision, an occasional gastric analysis, stool examination and fluoroscopic observation is considered essential for permanent results in the control of peptic ulcer.

In conclusion it may be permitted to point out that the physician who desires to succeed in the treatment of digestive disorders must be more than a physician. He must know and understand the problems of contemporary society. This is perhaps best illustrated by an example: We see that in the stress and turmoil of modern business and industry, not infrequently the first evidence of impending danger is some form of dyspepsia, observed in a type of individual, who, in the struggle for financial independence, never takes a vacation and continues to abuse the laws of health, until the neglect is penalized with a distorted mind in a sick body—a sacrifice on the altar of false duty and economic freedom.

One may be a wizard on the Stock Exchange and not know how to play. Success and economic independence will provide shelter, but not home; leisure, but not contentment. Money will buy food, but not appetite; it will provide sleep, but not rest; companions, but not friends.

Good health is life's greatest asset and its conservation should begin early along the way. Cultivate a hobby, preferably one that will provide rest and relaxation and plan for an equitable adjustment of work and play. Spend more time in getting acquainted with your home and family, and with your health adviser; play golf with your physician and know your dentist well, be-

cause it is a kind of thrift and form of investment that brings dividends in health and happiness.

Correct eating habits, oral hygiene, well-balanced dietary, well-prepared and well-masticated, personal and moral cleanliness, poise and emotional control, right thinking and right living, all contribute to healthy digestion and the prevention of peptic ulcer.

55 East Washington Street.

#### DISCUSSION ON PAPERS OF DRS. SNORF AND THORGAARD

Dr. Sidney A. Portis, Chicago: It is difficult to discuss these papers in the limited time at my disposal, and therefore I will be as brief as I possibly can. I believe that there may be definite evidence of healing in lesions of the gastric wall, but I have never been convinced that x-rays are of much value in evidence of healing of duodenal ulcers except that the spasm may not be as great. The cicatricial narrowing persists even after the most rigid type of medical treatment. I am not at all sure that the clinical course of ulcer is the most important evidence in making its diagnosis, and neither am I convinced that the complete absence of pain on the use of alkalis with or without food is in itself pathognomonic of ulcer. There are other conditions which give the identical same clinical picture.

I am becoming more and more impressed with the fact that if a patient has a continued epigastric distress simulating ulcer over a period of a year or more, without x-ray evidence of a lesion of the stomach or duodenum, one should be guarded in making a definite diagnosis of ulcer in that patient, or putting that patient through a long continued regime of ulcer management when in the final analysis it may be decidedly an unwarranted procedure.

Furthermore, I am diametrically opposed to the point of view that we should not individualize any of our ulcer cases and to treat them as a group may do distinct harm to the patient. Some of the cases may never be amenable to medical management and should and must have surgical intervention. I think by this more broad-gauged view of the whole situation that the patient's interest as a whole may be better served.

Dr. Karl L. Thorsgaard, Chicago (closing): In our discussion of the healing of ulcer an attempt was made to emphasize the fact that cessation of symptoms or feeling of well being does not always mean that the ulcer is healed. Clinical observation teaches us that serious complications such as hemorrhage or perforation may occur in an individual who gives little or no history of previous dyspepsia. This observation holds also for cancer of the stomach. In one of the theories of the origin of cancer emphasis is placed on the biologic aspect and on irritation. According to this theory, cancer will not develop without irritation. If it occurs in the stomach one speaks of the irritation as some form of maldigestion.

I wish to express my appreciation to the officers of

this section for their courtesy and to those who took part in the discussion as well as the privilege that has been mine to discuss some of the problems of peptic ulcer.

#### SUBTOTAL RESECTION OF TIBIA REPLACED BY FIBULA

JOHN R. HARGER, S. B., M.D.

CHICAGO

The basis of this discussion centers about the case of a child two and one-half years old, who suffered from an extensive inflammatory destruction of her tibia which was eventually replaced by the fibula. The epiphyseal cartilages, however, play the more important role in our attempt to restore function. Acute osteomyelitis has long been considered one of the most formidable conditions confronting the surgeon. One which if diagnosed early and treated radically offers results approximating one hundred per cent, but if unrecognized, and therefore neglected, is capable of producing complete destruction of a bone, and very often endangering the life of its victim. The disease lends itself to treatment which promises a fairly early return of function or to that which leads directly toward a state of chronic invalidism. A debt of gratitude we owe to the advances of modern surgery, which now enables us to offer a fair return of function to some of those unfortunates who have suffered extensive destruction of their long bones.

Present day surgical technique has well demonstrated what marvelous reproductive powers the human tissues possess. There is no structure in the body that demonstrates this more completely than does bone, when treated with due respect for aseptic principles. It can be made to respond to the handiwork of the surgeon and the demands of nature more than any other tissue in the body. However, well known these facts may be, patients continue to present themselves with bone lesions that will test the skill of any surgeon and the mechanical genius of the best trained minds.

The causative factors which lead to the infection and extensive destruction of bone as well as the immediate pathology produced, are too well recorded and generally known to warrant repetition at this time. On the other hand, the remote changes in the bone and soft tissues, fol-



lowing wide destructive lesions of this type, will bear more careful consideration and more serious thought.

As far as my studies extend in this case, literature fails to record satisfactory answers to many of the questions that arise during the course of treatment.

The case to which I call your attention was a female child two and one-half years old who came under our care in March, 1919. Family and personal history have no bearing except she was a twin and up to date had lived on an exclusive liquid diet. She was suffering from an acute osteomyelitis of the right tibia of seven weeks' duration, which had been very poorly treated. The picture presented was one of ex-

x-ray revealed almost complete destruction of the tibial diaphysis.

The problem then was that of a very much undernourished child, septic in the extreme, with marked secondary anemia and the question of the life or limb of the patient at stake. As in other surgical emergencies one's best judgment is the only port in the storm, and in this case resulted in an immediate resection of the diaphysis, except a small fragment at the lower end. This decision was reached only after better drainage, partial resection with drainage, or immediate amputation were considered.

After an incision through the soft parts and the periosteum the greater portion of the shaft was found lying free in a pool of pus. The upper epiphyseal cartilage was exposed and gently curetted to free it of pyogenic membrane and considerable pus was evacuated from the lower popliteal space posterior to the epiphysis. At the lower pole a small fragment of diaphysis was left with what appeared to be healthy cartilage.

Our efforts were rewarded by an immediate relief from sepsis, wound closed in six weeks and patient gaining rapidly.

We were now forced to provide means of locomotion while waiting for regeneration of bone. A brace with or without crutches seemed inadvisable for a child so small. We thus provided a reinforced flexed plaster cast and permitted the toes and ball of foot to extend beyond the cast for balancing body weight.

Regeneration of bone progressed favorably for nearly a year, but left a defect of  $3\frac{1}{2}$  inches. Fig. 2.

At this stage a transplant was seriously considered, but several questions arose which led to a postponement; among which were the following: First, at this time the bones were actually and relatively very small. Second, the viability of the epiphyseal cartilages could not be determined. Third, growth in length would in part be maintained for a time by the fibula and, fourth the child was comfortable and active.

The question of the viability of the epiphyseal cartilages remained unanswered for many months, and we were confident that if transplanting were delayed a better relative lengthening of the leg would result. However, the limited function of the leg without a transplant was not free from hazards. It was noted from



Fig. 1.

Fig. 2.

Fig. 1. Condition of shaft of tibia just before resection. Note only small fragment of live bone just above lower epiphysis.

Fig. 2. Extent of regeneration after several months and where it remained for 3 or 4 years. While the leg increased in actual length about two inches because of the fibula.

treme sepsis, great emaciation, blood findings of about 60%, marked enlargement of the entire tibia and leg from knee to ankle. Fig. 1. The

time to time that the new formed bone began to be absorbed and the epiphyseal ends to show atrophic changes, and a noticeable tilting of the pelvis was developing which bid fair to interfere with future growth and eventually the maternal activities of adult life.

After four and a half years of watchful waiting it was noted that the relative length of the

internal anterior aspect of the fibula as well as the tibial fragment. The fibula was freed from muscles over its upper third. The pointed end of the tibial fragment was exposed and irritated. We then determined the proper level at which to saw the fibula so it could be transferred across anterior to the interosseous membrane and allow the pointed end of the tibial fragment to rest in the medullary cavity of the fibula. This was readily accomplished and served as a wedge to maintain the opposing fragments in position without other mechanical means. Fig. 3. The



Fig. 3.

Fig. 3. A few days after upper end of fibula was transplanted under tibial fragment, also note ankylosis between lower tibial fragment and the shaft of the fibula, and the lower end of fibula is slipping past the ankle joint.

leg was not keeping pace with the opposite one, partly because the fibula was slipping past the tibial tuberosity and the ankle joint below. In the meantime there had developed an ankylosis between the lower tibial fragment and the fibula, while this bone had hypertrophied considerably and thus offered a good substitute for the tibia in the upper part of the leg.

In November, 1923, after careful preparation the upper end of the fibula was transplanted under the upper fragment of the tibia. Operation. The incision was made lateral to the old scar, anterior to the center of the interosseous membrane, thus offering an easy approach to the

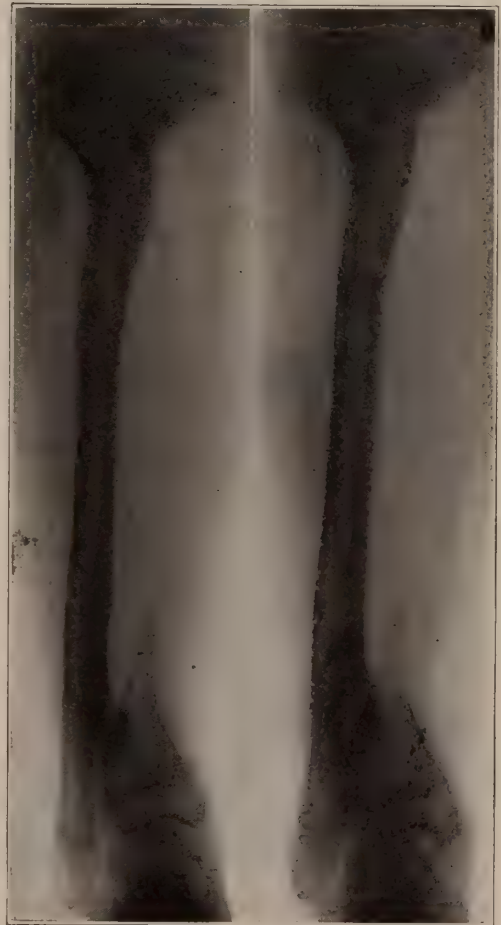


Fig. 4.

Fig. 4. Five months after transplant. Note that epiphyseal cartilages are very indefinite and that ankylosis of bones below is well established. Note relatively poor ankle joint articulation.

Fig. 5.

Fig. 5. Two years after transplant. Note nearly normal ankle joint with rotation of tibial fragment and relative raising of lower end of fibula.

wound healed promptly without infection and then the problem of immobilization was to be solved. We recalled that the hamstring muscles



had for several years maintained the tibial fragment slightly flexed and we were tempted to fix the leg in a semiflexed position, but for obvious reasons it seemed best to provide fixation in a fully extended position; care at all times being taken to prevent rotation of the foot.

Following the transplant of bone the wound healed promptly and soon a callous united the two fragments. The child was then provided with a well fitted brace and shoe and at the end of a year she was using the leg freely. Fig. 4. The union of the fibula and lower tibial frag-

to control this by muscular action, and aside from a shortening of about two and one-half inches her leg functioned normally.

About two years after the patient was permitted to walk on the leg, she returned for observation and a condition shown in Fig. 6 was found. The ankylosis between the fibular shaft and the



Fig. 6.

Fig. 6. Three and half years after transplant ankle joint now very prominent, articular surface of tibial fragment changed markedly due to weight bearing and inward rotation of the fragment.

ment had become more secure and in 18 months she walked readily without any support. Fig. 5.

Examination eleven months after transplant showed what had been anticipated, that union had occurred with the tibial fragment slightly flexed, thus resulting in a hyperextension of the leg of 10 or 15 degrees. The child soon learned



Fig. 7.

Fig. 7. Ten days after transplantation of lower end of fibula. Excellent alignment of fragments with ankle joint simulating very closely that of a normal child.

tibial fragment had proven itself inadequate for weight bearing because of poor alignment, bringing the line of pressure outside the long axis of the leg and foot. With further shortening and deformity inevitable transplantation of the lower portion of the fibula was advised.

Correct relation of ankle joint and leg must be secured and if possible some increase in length of leg obtained. To bring this about we first severed the ankylosis between the tibia and fibula, lengthened the tendo Achillis and inserted a Steinman pin into the os calcis. By means of the pin, extension was maintained for three weeks with weights increased to 12 pounds. Having thus accomplished the desired result with an increase of a half to three-fourths of an inch in length, transplantation was attempted.

An oblique section of the fibula with lower end of the upper fragment resting in a drilled opening in the tibial stump, seemed to offer the best immediate and ultimate results. However, we found we had not judged properly the condition

of the fibular structure, for the lower end of the upper portion came to be the part which had been ankylosed with the tibia. When it was being manipulated into line with the tibia the lower end was broken off, making it entirely too short for the purpose for which it was intended. Further transplanting was thus made necessary. This problem was solved by taking the anterior

reported cases of resection of long bones, partial or complete, for osteomyelitis or tumor growths and have secured regeneration or substitution with more or less satisfactory results.

Calhoun and Bradford in 1879 and Senn in 1880 report such cases, with extensive excision of the tibial shaft with regeneration. In more recent years Torrance, Stoney, Bond, Stone, Nichols, Huntington, Humiston, Beck, Campbell, MacAusland, Beye and many others have reported on their work more or less extensively. Many types of cases are recorded, some where spontaneous regeneration took place, while others called for bone transplants. In most cases fairly satisfactory results are reported. Where x-ray plates are shown the larger per cent indicate a *normal epiphyseal cartilage*. This is especially true in MacAusland's and Beye's cases. Beye's third case of tibial resection was a brief report of my case.

No one author has had sufficient experience with these cases to enable him to establish definite surgical principles on which to base the treatment. Nichols in 1904 gave the best and most logical discussion of the whole subject. He stresses early resection of necrotic bone while the regenerative power of the periosteum is at its best. The satisfactory regeneration he obtained in several cases bears out his contention. Nichols is one of a very few authors who call attention to the importance of the epiphyseal cartilages. He thinks the time for resection must of necessity vary in the cases, but the average would be about the eighth week or when a thin layer, say 1/16 of an inch, of new bone was deposited.

To be called upon to resect the shaft of a long bone, for osteomyelitis, is a sad reflection on the medical profession. However, as we are confronted by such problems, better methods of restoring function should merit our attention.

In the study of this subject numerous problems present themselves. When these are solved intelligently we will have a dependable guide for the treatment of such cases.

First: What are the essentials for the regeneration of bone and particularly the diaphysis of long bones? This point is not settled in the minds of most of us, for some claim that periosteum, endosteum and surrounding connective tissue are required. And yet all types of connective tissue possess osteogenetic properties

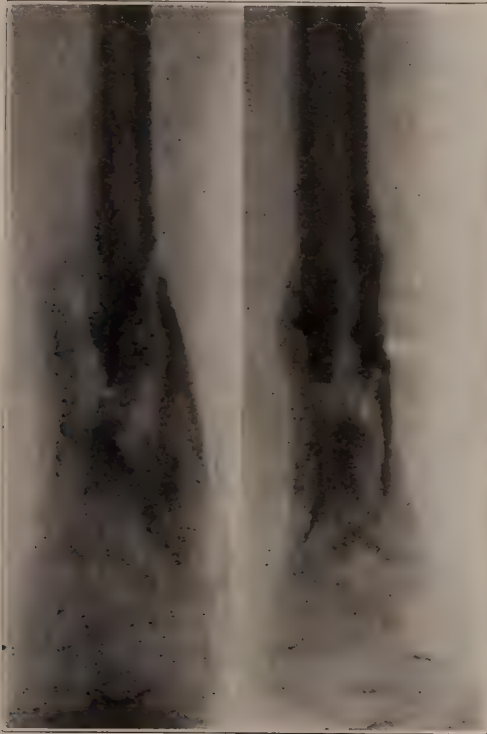


Fig. 8.

Fig. 8. Eight weeks after transplant showing position has been maintained and callus developing about the fragments.

half of the lower fibular fragment which was inverted and placed in the drill hole in the tibia. This enabled us to anchor the upper fibular fragment and complete the formation of an ankle and lower leg, simulating very closely the normal.

The subject of bone transplantation has been well covered in recent literature, but the function of the epiphyseal cartilage associated with transplants should receive further consideration.

The removal of the shaft of a long bone in destructive osteomyelitis is a comparatively simple procedure, but the preservation of the cartilages and the regeneration or replacement are questions far more difficult to solve.

Since 1879 down to the present, authors have



under certain unknown conditions. Illustrated by sesamoid bones and myostis ossificans. Relatively early operation for ununited fractures offers a higher percentage of good results, and the same holds good in the resection of the shaft of long bones for necrosis. This would indicate that under such conditions the essential elements are present in a large number of cases or they are more vigorous, and that in delayed cases these elements are absent or of low vitality.

One may conclude that in osteomyelitis the cambium layer with its osteoblasts may be destroyed by the infection or unintentionally removed with the necrosed bone.

MacEwen contends that in the presence of acute osteomyelitis, especially in the early stages, the osteoblasts accumulate in the Haversian canals and due to pressure from within are forced to the surface and infiltrate the meshes of the areolar tissue under the periosteum. That in this way the osteoblasts are saved from being destroyed with the compact bone. He attempts to show that if the infection is very virulent and sudden extensive necrosis occurs, or if the nutrient artery becomes thrombosed early that the osteoblasts are not given a chance to escape under the periosteum but perish with the compact bone, and in these cases regeneration is either retarded or fails to occur. If these conclusions are true or not the fact remains that in some cases regeneration is prompt and complete, in others it is retarded or absent.

The second question that presents itself is—in what cases may we expect regeneration and which ones not? If the above conclusions regarding regeneration be true we may be able to answer this question within reasonable limits.

Third: What artificial or natural resources may we employ to encourage osteogenesis? Shall we permit a necrosed diaphysis or a part of it to remain in situ until an involucrum is well established, or will early resection with a temporary artificial bridge or the approximated periosteal sheath serve better as a guide and stimulus for the formation of new bone? Nichols favors early resection, about the eighth week, and approximation of the periosteal sheath laterally.

Fourth: At the time of excision of a necrosed shaft or at a later date, how may we determine the viability of the epiphyseal cartilage? This can be answered only by the future changes in

the bone, but a failure to replace the removed diaphysis would indicate a questionable cartilage and retarded length would assure one of it.

Fifth: When regeneration fails what will be our rules of conduct? After six months with failure should a transplant be made? Each case must be treated as such and a transplant instituted at the opportune time.

Sixth: The source of the transplant will be that one best suited in each case; however, the companion fibula is the most available and sure in a great many cases.

Seventh: When the viability of the tibial epiphysis is in doubt that of the neighboring fibula may make an excellent substitute.

Eighth: Should some method of retarding growth in the opposite leg receive serious consideration?

Ninth: Would an excision of a fragment for shortening the other leg be a safe procedure?

That cartilage lives and functions without a blood supply is well known and that its nourishment must be derived from contiguous tissues is another salient fact, but can epiphyseal cartilage survive when attached only on one side with its normal bone and be bathed on the opposite side by a serosanguinous exudate more or less devitalized by infection, is the question confronting one when resection of the shaft of a long bone is considered.

### *Resume*

1. Extensive destruction of the shaft of a long bone is to be expected in long standing, poorly treated osteomyelitis.
2. Resection of the necrotic shaft in toto is a recognized procedure.
3. The regeneration of the diaphysis of a long bone under present methods of treatment is very problematic.
4. Replacement by graft of any part of a lost diaphysis is quite easily accomplished.
5. The fibula of the same side makes the best graft.
6. Before adult life the viability of the epiphyseal cartilage is the most important consideration in the permanent restitution of function.
7. A transplanted fibula or fragment of tibia soon develops into a weight bearing bone.
8. A well developed involucrum does not

make a good substitute for the entire diaphysis.

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#### CONSERVATIVE TREATMENT OF HEMORRHOIDS

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The changing attitude of the profession toward the conservative or injection treatment of hemorrhoids since its introduction by Dr. Mitchell in 1871 is interesting and instructive. For nearly a quarter of a century after its introduction its use was confined largely to the uneducated and irresponsible. As a secret cure-all, it was sold to anyone who would pay the price. Even under such unfavorable conditions, the percentage of favorable results were sufficient to attract the attention of competent physicians.

Dr. James P. Tuttle, Professor of Rectal Surgery in the New York Polyclinic, in his "Diseases of the Anus, Rectum and Pelvic Colon" (A. D. 1902) after an analysis of over 3,000 cases of hemorrhoids treated by the injection method wrote: "Lately, however, a better knowledge of the method and the class or cases to which it is applicable have led many surgeons to give it a trial, and their reports are very satisfactory. The method is well worthy of thorough consideration."

Dr. A. B. Cooke, formerly professor of proctology in Vanderbilt University, in his book "Diseases of the Rectum and Anus" (1914)

said: "For many years physicians regarded the secret method with outspoken contempt. With scarcely an exception, medical writers referred to it slightly or condemned it and its users in the most sweeping terms. And the same attitude is maintained to a certain extent today, with the result that the method is still being successfully exploited in all parts of the country by 'no-knife' advertisers, to the continued detriment and chagrin of the self-respecting profession. There is in reality no reason or excuse for the existence of such a state of affairs. The method is not and has not for many years been a secret. The profession should consider without prejudice whatever merits it may possess and so be in a position to advise the public intelligently upon the subject."

In the same year Dr. Jerome M. Lynch, Professor of Rectal Surgery in New York Polyclinic, in his "Diseases of the Rectum and Colon" (1914) wrote: "This method is not popular, owing to the fact that it has been exploited by the quacks. Since, however, it has been taken up seriously by the regular profession, very good results have been obtained in the hands of careful men."

Dr. Charles D. Aaron, Professor of Gastro Enterology in Detroit College of Medicine and Surgery, writing of the injection treatment of hemorrhoids in the *New York Medical Journal and Medical Record* for December, 1922, says: "This method of treatment for internal hemorrhoids and prolapse is to be preferred to surgery because there is no destruction of tissue and no danger of stricture. The cases can all be treated in the office and the patient need not go to bed, so there is no loss of time."

Arthur S. Morley, F. R. C. S., of St. Mark's, London, an institution devoted exclusively to the treatment of rectal diseases, in his book "Hemorrhoids," (1923), wrote of their treatment:

I am convinced that operation is rarely necessary and that the condition may be dealt with as satisfactorily and as safely by the method of interstitial injections, thereby saving the patient from lying up and sparing him considerable pain, inconvenience and expense.

To revert to my own experiences at St. Mark's Hospital and elsewhere, extended experience has given me ever-increasing confidence in the treatment and I think it would be an underestimate to say that I have treated 2,000 cases at St. Mark's Hospital itself and between 1,000 and 1,500 cases in private.

That my results from injection at St. Mark's Hos-



pital did not compare unfavorably with those of my colleagues there who operated upon their cases is shown, I think, by the fact that no less than three of the house surgeons, who had ample opportunities of watching both methods of treatment and of comparing them, are now enthusiastic practisers of the treatment by injection, whilst one of them came to me to have his own hemorrhoids injected.

Dr. E. R. Terrell of Richmond, Va., read a paper on "The Treatment of Hemorrhoids by Injection" before the American Proctological Society in May, 1925. He reported having treated over 3,000 cases in the preceding twelve years. A personal communication from the Doctor says he has now treated over 4,000 cases. Regarding this method of treatment Dr. Terrell concludes: "I am convinced that it is a safe, efficient and reliable agent in the treatment of simple uncomplicated hemorrhoids. The remedy has its limitations and satisfactory results will be gotten only when the surgeon is able to select cases suitable to its use. When properly selected and a faultless technic is employed, cures approximating 100 per cent. will be obtained."

Dr. T. Chittenden Hill, Instructor in Proctology, Harvard Graduate School of Medicine, in his "Manual of Proctology" (1926) said of the injection treatment: "To complete a cure in ordinary cases requires from three to a dozen or more treatments. Like other surgical procedures, a careful technic with much attention to detail and some little experience are required in order to get the most satisfactory results. At the present time, I employ this method in selected cases, more especially hemorrhagic cases, where it acts like a specific."

Dr. Joseph F. Montague, Lecturer on Rectal Diseases, University and Bellevue Hospital Medical College, wrote in this volume "Hemorrhoids" (1926):

The injection method of treating hemorrhoids is a legitimate and efficient method of treating properly selected cases.

Eminent surgeons in many countries throughout the world, including our own, have tried the method over a period of years, and agree in general that in properly selected cases the injection treatment of hemorrhoids may rightfully be included in the therapeutic armamentarium of physicians who have occasion to treat rectal diseases.

English Proctologists in general, and by this I mean men of unquestionable standing in their profession and high esteem in the medical communities wherein they are residents, are very much enthused over the careful use of the injection treatment of hemorrhoids. Sir

Gordon Watson and Mr. Mummery at the St. Mark's Hospital in London, freely state their faith in its value in certain types of hemorrhoids. Mr. H. Graeme Anderson is most enthusiastic over the method. Bell, Alexander and Murphy have likewise stated their success with the injection treatment in various articles in the literature.

Finally, when we, as legitimate and ethical practitioners of proctology, contemplate the truly enormous numbers of patients who turn to the quack for this type of treatment, we must naturally inquire as to the cause. The reason, I believe, rests in the fact that most of us assume the attitude that there is but one treatment for hemorrhoids, and that is operation. By our own persistence in this attitude, we lead the laity to expect non-operative treatment from only one source—the advertising "pile doctor." There is no secrecy to the method, nor does anyone practicing proctology lack the requisite skill; all in all, we have no excuse for neglecting the method. It appears to me that by offering the laity injection treatment as an alternative to operative treatment, we could speedily deprive our outlaw confreres of their most valuable asset.

These few quotations arranged chronologically show the trend toward conservative treatment of rectal diseases. Competent and ethical physicians all over the country are now doing this work, so it is no longer necessary for those who would avoid radical operations to patronize the unqualified and unethical. When competent men have thoroughly tried and endorsed this method we may safely disregard the opinions and criticisms of those who have not investigated its merits.

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## EXOSTOSES OF THE BONES OF THE FOOT

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Diseases of the feet have received inadequate study; often, they are misdiagnosed, mismanaged and injudiciously treated. Intensive study of foot ailments is needed; there will result therefrom greater precision in diagnosis and increased knowledge of the etiology, pathological anatomy and appropriate methods of treatment of many painful and disabling foot conditions. The two prerequisites to the permanent and complete cure of any disease are: (a) the exact knowledge of its causative factor or factors, and (b) the thorough understanding of its associated anatomical changes. Thus, for the successful treatment of

talalgia,<sup>4</sup> it is essential to know what causes the heel to be painful, because curative treatment necessitates the removal of the cause or causes.<sup>28</sup> Complete removal or suppression of the cause is followed by the subsidence and, eventually, by the complete and permanent disappearance of all objective and subjective symptoms.

In this contribution it is our purpose to discuss exostoses of the bones of the foot, subungual exostoses,<sup>28</sup> calcaneal spurs, etc. To insure a better understanding of the subject-matter of this paper, brief reference will be made to some bony and cartilaginous outgrowths foreign in nature to those considered in this communication.

We will merely mention at this time the multiple cartilaginous exostoses<sup>1</sup> designated by some deforming chondrodysplasia.<sup>19</sup> This disease presents (a) multiple,<sup>14</sup> often symmetrical, cartilaginous exostoses unassociated with pain; (b) hereditary<sup>2</sup> and familial<sup>3</sup> features (Maynard & Scott<sup>25</sup>: In thirteen of thirty-three cases, a positive history of heredity was obtained; (c) an onset in early life, probably before birth; (d) a more common incidence in males than in females; (e) the absence of infection as an etiological factor. Some authors attribute this disease to metabolic, others to endocrine disturbance.<sup>6</sup>

Exostoses cartilaginea are also omitted from this article. Developing exclusively during the period of normal growth of bone<sup>7</sup> and usually affecting the lower extremities of the femur and radius and the upper extremities of the humerus and tibia, they are unilateral outgrowths of epiphyseal cartilage gradually displaced by skeletal growth upon the shaft of the bone. These exostoses are called by some ossified chondromata.<sup>12</sup> Nerve fibres have not been demonstrated either in the osseous tissue or in the encrusting cartilage of exostoses.

Exostoses of the scaphoid, of the head of the first metatarsal of the phalanges, subungual exostoses and calcaneal spurs are totally independent of skeletal growth and, apparently, are due to inflammation, infection, chronic irritation<sup>30</sup> or traumatism.

Subungual exostoses, first accurately described by Dupuytren, are osteo-cartilaginous or osseous in nature. They most often develop upon the dorsal surface of the distal phalanx of the great toe; rarely upon the other toes (little toe<sup>26</sup>).

They are more common in young adults. Though their exact etiology is as yet undetermined, it is generally admitted that injury of the affected toe plays an important rôle (contusion, blow, pressure of a tight shoe) in their causation. Many believe that they are due to irritation; others attribute them to exuberant growth of cartilage in the transition stage. Subungual exostoses press into, but do not grow into the subjacent phalanx. Their growth is, for a time, impeded by the pressure of the overlying nail.

Subungual exostoses develop from connective tissue, cartilage or periosteum; they vary in size, are slow of progress and, after ulceration of the overlying derma, are attended with more or less fetid discharge. The pain and tenderness inherent to them are increased by shoe pressure and by walking. Once the nail has been perforated, it exerts no further restraint upon the exostosis, and the latter grows above the nail level. At this period, the pain is acute and the disability great. The nail over the growth is, at first, raised from its bed. If the condition be unrelieved, the growth may project beyond the free edge of the nail, may curve the latter upward and finally break or perforate it. At this time, the pressure of the shoe is unbearable.

The condition is easily diagnosed from the appearance of the toe. If ossification has occurred, a lateral roentgenogram gives conclusive evidence; it shows a cylindrical-shaped exostosis arising from the dorsal surface of the distal phalanx near its most distal point.<sup>10</sup>

The curative treatment of subungual exostoses is operative. Their removal is effected under local or general anesthesia. The nail should either be extracted or enough of it removed to completely expose the growth. The growth is completely removed; it is chiseled and gouged out. Curette thoroughly the base of implantation, thereby avoiding recurrence; control bone hemorrhage by compression. Apply usual dressings and immobilize part.

Calcaneal spurs are single or multiple,<sup>8, 34b</sup> unilateral or bilateral, occur at all periods of life, and with greater frequency in males than in females. Lewin reports a case in a boy aged nine years; Sundeloef,<sup>35</sup> in a boy seven years old. They are larger at the base than at the free anterior end and vary in shape and in size; may be so enlarged as to project as sharp points half an



inch longer.<sup>21</sup> They are found most commonly upon the inferior and posterior surfaces of the os calcis, originating usually from the medial process of the tuberosity, less frequently from the lateral process, rarely from both processes. They may be implanted anterior to the tuberosity. These tubercles give attachment to the abductor digiti quinti, flexor digitorum brevis and abductor hallucis muscles. Retro-calcaneal spurs are implanted on the upper half of the posterior surface of the calcaneum, anterior to the tendo Achillis and are capped by the retro-calcaneal bursa which, in these cases, is usually the seat of pathological changes.

Many clinicians contend that the collapse of the longitudinal arches of the foot causes increased tension and exaggerated strain upon the aponeurotic and muscular insertions of the plantar fascia, of the flexor brevis digitorum and abductor hallucis muscles;<sup>23</sup> this irritates the periosteum and gives rise to cartilaginous vegetations which later on calcify. Similar thorn-shaped or prickle-shaped excrescences occur on the humerus, on the ulna<sup>18</sup> and other bones, also on amputation stumps, probably an ossification in muscle, the result of stripped periosteum.

Calcaneal spurs often coexist with infectious diseases: syphilis, gonorrhea, etc.; with toxemic conditions (gout,<sup>34a</sup> rheumatism, etc.), with chronic focal infections. After the successful treatment of these coexisting conditions, not uncommonly, the spur or spurs disappear. This gives weight to the view expressed by many investigators that infectious diseases, toxemic conditions and focal infections (especially oral) are contributory causative factors. "It has never been definitely demonstrated that the Neisserian diplococci are capable of inciting hypernutrition with consequent exostosis or osseous outgrowth in any anatomic situation, although systemic invasion of these microorganisms is frankly admitted,"<sup>29</sup> Burt<sup>33</sup> contends that the osteophytes or exostoses in gout and arthritis deformans are due to mechanical irritation and that they are not the sign of a specific disease. According to him, their presence in these diseases signifies that the joint has been used while the ligaments are still weak from some pathological condition, such as senile degeneration, gout, trauma, trophic changes, or microbic disease.

Trauma is the main causative factor, the direct

exciting cause. In the standing position, the heel bears the greatest portion of the body weight; during walking, it receives the heaviest jolting (foot-strain).<sup>27, 31</sup> This partially explains the not uncommon occurrence of exostoses in corpulent individuals whose occupations call for prolonged maintenance of the erect posture, such as laundresses, policemen, cooks, etc.

Exostoses never occur in the presence of suppuration.<sup>17</sup> It follows that if a connective tissue be the seat of suppuration, no exostosis will develop in it.

Structurally some are formed by adult normal bone tissue,<sup>5</sup> while others present evidence of inflammation.

Exostoses arise from the periosteum beginning usually as an acute periostitis, later becoming subacute and then productive, going through the customary stages of bone production until bone is fully formed. First, owing to the stimulation by trauma or infection, or both, there is a proliferation of the osteogenic layer of the periosteum, then partial ossification, and finally complete bone formation with firm attachment to the underlying bony structure.<sup>8, 11</sup>

Blencke<sup>34b</sup> studied six hundred and seventy-three unselected roentgenograms of the foot and found spurs present on the os calcis in nineteen cases. They are frequently detected on the posterior and plantar surfaces of the os calcis during routine x-ray examinations of the foot for other conditions. Very often they give no symptoms until some trauma occurs, such as falling and striking on the heel; often the disabling symptoms become manifest with the advent of a local or systemic infection.

They may be painless. "Although calcaneal spur is quite a common abnormality, it is a rare cause for pain."<sup>28</sup>

In bilateral exostoses, one heel may be painless and the other, the seat of acute<sup>18, 34a</sup> pain. Both may be the seat of pain, of simultaneous or consecutive occurrence and of disability, of equal or unequal degree. The onset of pain is insidious or sudden; the whole heel may become painful. No constant relation exists between the size of the exostosis and the pain associated with or determined by it.<sup>5</sup> The exostosis on the painless foot may be larger than that on the painful foot. The patient experiences pain every time the heel comes in contact with the ground.<sup>15</sup> Pressure

upon the exostosis excites pain and aids in determining its site. This localized tenderness<sup>22</sup> is a subjective symptom of great diagnostic importance, and often serves to differentiate the pain of exostoses from that due to talalgia of other causes. Erect posture and walking are painful, at times, impossible. When the patient is at rest, as when lying in bed, the pain gradually disappears. The patient instead of bearing the body-weight mainly on the heel transmits it to the ball of the foot. The gait is slow and careful. The exostosis may irritate, stretch the nerve filaments in its immediate neighborhood. A bursa that at times caps the exostosis may be the seat of inflammatory or degenerative changes. In retro-calcaneal spurs there is usually a visible swelling to either side of the tendo Achillis and dorsiflexion of the foot is painful. Plantar and retro-calcaneal exostoses may be present in the same patient.

In all cases of talalgia, in fact, in all obscure foot conditions, the affected and the unaffected foot should be radiographed so as to establish the presence or absence of exostoses. Often the condition is erroneously diagnosed flat-foot or painful heel. Inspection may reveal nothing abnormal, though frequently pes planus or pes cavus coexist. Some exostoses have the opacity of other parts of the calcaneum, are dense and definite in outline and present the structure of normal adult bone. Others, of inflammatory origin, are pale, have a blurred outline; calcification is less advanced.<sup>36</sup>

The treatment is palliative or curative. It is self-evident that the patient's general health must be improved by the elimination of all possible debilitating factors. The removal of infected tonsils, the cure of oral and of other focal infections, the effective treatment of gonorrhea, syphilis<sup>32</sup> and of all toxemic conditions, such as gout, rheumatism, etc., is urgently needed.

Pain due to direct contusion or bruising of the tissues is treated by rest and, if necessary, by change of occupation. If the patient is suffering from a disease contra-indicating operations of election, resort to palliative treatment. A rubber heel combined with a cork insole so cut as to remove direct pressure upon the sensitive points, often affords great relief. If despite these hygienic measures, pain persists, the operative removal of the spur, irrespective of its size

or location, is indicated. Exostoses unassociated with symptoms do not call for removal. The ablation of the spurs is effected under local, regional, spinal<sup>15</sup> or general anesthesia. For the removal of spurs located on the posterior surface of the os calcis, a vertical incision may be made to either side of the tendo Achillis, preferably in the middle of this structure, through its whole thickness. Injury to the posterior vessels and nerves is to be avoided. Remove the bony protuberance and the retro-calcaneal bursa whose walls as the result of irritation are usually hypertrophied and inflamed. For those located on the inferior surface of the os calcis, a few operators use a plantar incision and claim not to have seen any trouble arise from the subsequent scar. We prefer a slightly curved horizontal incision,<sup>20</sup> including the skin and cellular tissue, made along the inner or the outer or both surfaces of the heel. Some operators using incision encircling the heel turn down the heel flap and lay bare the inferior surface of the posterior part of the os calcis. By blunt dissection, the tubercles and the exostoses are exposed. The latter are usually ensconced in the calcaneal insertions of the abductor hallucis. Exostoses are best removed by means of chisel and mallet. Always gouge or remove some of the underlying bone and the adventitious bursa<sup>24</sup> if one be present capping the exostosis. Inflict the minimal amount of trauma upon the surrounding bone and soft tissues. Osgood<sup>9</sup> warns against the removal of the spurs unless it can be done with little operative trauma. Close the wound with silkworm-gut sutures. Caution the patient not to bear any weight on the foot for two or three weeks. When first beginning to walk, some pain will be felt; it will soon subside. The patient is to be provided with proper shoes, provided with felt pads relieving undue pressure.

Before leaving the hospital it is well that an x-ray of the foot be taken so as to be positive that the exostosis has been removed.

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## MUSCLE-STRAIN PRECIPITATING A PNEUMOCOCCUS CELLULITIS OF SHOULDER GIRDLE, FROM RES- PIRATORY INFECTION

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Mr. A., a married man, aged 41 years, had had no serious illness at any time in his life except a chronic pericarditis, first discovered about six months ago. At that time he was in bed about two weeks, and gradually got back to work, and has had no symptoms in the heart region for the last four months.

He went to the lake region of Wisconsin for a week's vacation. While there they drank water out of a spring. The last day he was there he had a headache and did not feel well. He drove home next day and was feeling very weak and had general malaise and some fever. When he got home he went to bed and stayed there for a couple of days, thinking that he would get over it.

About the third or fourth day after he returned home he called me to see him. I found him in bed with a temperature of 102.6 and a pulse of 100. He complained of a headache, and a backache, and most of all of pain in his right shoulder and the upper part of the right arm. On inquiry I found that he had cranked an outboard boat motor for two or three hours to start it. This seemed to be sufficient cause for the pain and soreness of the right shoulder. There was no redness or swelling at this time. On the right arm, however, the epitrochlear gland was palpable, but none were noticed in the axilla or in the cervical region. His throat was just a little red, but not enough to account for the fever. The lungs were clear—but he had an annoying bronchial cough that bothered him most at night. The pericardial rub was still present, but this remained the same as it had been for the last six months, and was causing no symptoms. He had vomited that morning and was still nauseated. I made a tentative diagnosis of respiratory influenza. That night at 2:00 A. M. he had a severe chill. The next day his temperature was about a degree lower, and he felt a little better in general; but his shoulder and arm were still very painful, but there was no change visible externally. That evening a neighbor prevailed upon him to call in an osteopath, and he got an osteopathic treatment. That night he didn't rest

much, next day his temperature was up one degree. He had vomited once or twice and had severe sweating spells. Nothing definite could be found, but the shoulder was the chief complaint.

The next day I advised him to go to the hospital, and it didn't take much persuasion because he was a very sick man. The disease had not run the course of an influenza, and I thought it must be either a typhoid or a tularemia. His afternoon temperature at the hospital was 105.4 rectally. His white count was 17,000. His main complaint was his right arm and shoulder—there was tenderness but no definite swelling. Blood culture was negative and two or three Widal's were negative. Urine was negative.

The second day in the hospital his afternoon temperature, rectally, had dropped one degree, but the WBC count was 25,000.

On the morning of the third day definite swelling and redness were noticed in the right infra-clavicular region, and in the upper half of the right arm. Heat was applied. That afternoon his WBC had dropped to 18,000, and his temperature was 103.8.

The next day the swelling was a little more pronounced and there was a suspicion of fluctuation. A large hypodermic needle was inserted, under local, about 1½ inch below the junction of the middle and outer thirds of the right clavicle, and a heavy greenish yellow pus obtained. A smear of this pus showed an abundance of diplococci with the characteristics of pneumococci. Under gas anesthesia an incision was made through the skin at the site of the exploratory puncture, and on separating the fibers of the right pectoralis major muscle about four ounces of pus escaped. On digital examination of the abscess cavity it was found to be peri-articular, dissecting along the fascial planes in the sub-pectoralis region.

Following the drainage of this abscess the patient felt a marked relief, and progressed favorably toward recovery, although his temperature did not drop to normal, as it usually does on the opening of an abscess, it came down about a degree a day until it reached normal, and then stayed there.

About ten days later a small fluctuating area was detected in the upper biceps region. This was opened and about half an ounce of pus

escaped. Since that his recovery has been rapid. The movement of the right arm is limited and painful; it is improving daily.

#### CONCLUSION

I have never seen or heard of a similar case, and it seems to me that the etiology and pathology of the case is as follows:

1. He cranked a boat-motor until the muscles of his right shoulder and arm were strained (such areas of muscle have very sluggish and poor circulation).

2. Then he got an influenza with a pneumococcus bacteremia (the bacteremia having cleared up before the blood culture was taken).

3. The pneumococci found a favorable medium and incubating place in the damaged muscle, where they proceeded to grow and produced the abscess, or cellulitis.

N. B.—Comment and discussion invited.

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#### SOME STUDIES ON THE ACTION OF PARATHORMONE, PATHOLOGICAL PART\*

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In the experiments with dogs performed by Dr. Matthews and Dr. Austin, I had the opportunity to examine the organs of these animals upon the effects produced by the injection of excessive amounts of parathyroid extract.

The clinical course observed in the animals did not differ in general from the description given by Collip. In the beginning, when the blood calcium exceeded the normal level by about 3-4 mgr, a psychic depression, a slight decrease of the pulse rate and an increase of the urine excretion was observed. With increasing blood calcium the symptoms become more urgent. The dogs began to vomit in attacks, the pulse rate dropped more markedly and the pulse grew irregular. Simultaneously the coagulation time showed a decrease from two minutes to half a minute. In the final stage the animals vomited more freely a bloody mucinous material or even pure blood. Also bloody diarrhea was observed. The amount of excreted urine was diminished in

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\*Read before the Chicago Medical Society, April 20, 1927. It was illustrated with numerous lantern slides.



the final stage or complete anuria was then present. The urine showed a slight turbidity after boiling and leukocytes and kidney epithelial cells in the sediment. The dogs died after a period of general weakness and dizziness with the symptoms of coma.

The post mortem examination of these dogs was usually performed soon after death. Following gross pathological findings may be recorded:

1. The internal organs were hyperemic.
2. The heart was firmly contracted.
3. The stomach was filled with a dark red bloody fluid or a coffee ground colored material. The inner surface of the stomach was highly folded. The mucosa was markedly swollen and showed a red jelly-like appearance. Smaller and larger hemorrhages were not rare. These alterations were restricted to the fundus part, while the pyloric region was sharply demarcated from the fundus, showing an almost normal appearance.
4. The duodenal mucosa had the same red jelly-like swelling as the fundus of the stomach. Moreover, multiple small round shallow ulcerations were sometimes observed.

The microscopical findings were as follows:

*Brain:* The vessels in the brain were hyperemic, and in the region of the basal ganglions the pons and the medulla oblongata frequently surrounded by small hemorrhages.

*Thyroid:* Two types of thyroid glands were found. In those resembling the normal human thyroid in architecture calcium deposits were seen in the colloid either in form of coarse dark blue granules or diffusely dissolved in the colloid. In the other type, which was more similar to a human parenchymatous goiter, the interstitial connective tissue was impregnated with calcium salts, forming a dark blue stained framework in which the glandular formations were embedded.

*Lung:* Impregnation of the elastic membranes of the alveolar septa of the lung were only rarely seen. The alveoli were often filled with a serous or hemorrhagopurulent fluid.

*Heart:* Leukocytic infiltrations were scattered throughout the whole myocardium. They were either found in the neighborhood of small thrombotic vessels or between or around fragmented or necrotic muscle cells. Myocardial fragmentation was not rare.

*Stomach:* The cylindrical cell lining of the mucosa of the stomach was more or less destroyed and necrotic. The necrosis extended frequently into the deeper parts of the mucosa, which always showed signs of a marked degeneration. The mucosa as a whole showed a diffuse hemorrhagic inhibition. The vessels were extremely hyperemic and sometimes thrombotic. In small arteries and veins the thrombi were occasionally formed by conglomerated leukocytes. Calcium deposits were only seen in glandular cells, but here in a large number.

*Duodenum:* The pathological alterations of the duodenal mucosa were the same in character as reported for the fundus of the stomach but less marked. Grayish blue stained precipitations of calcium salts were seen in the muscle cells of the circular layer.

*Pancreas:* The pancreas showed small necroses and hemorrhages into the lumen of the ducts.

*Liver:* Necroses of liver cells were seen in several cases. These alterations involved either wedge-shaped areas or they were diffusely scattered in the liver tissue, leaving in places only the liver cells in the periphery of the lobules and along the interstitial tissue septa well preserved. Thrombi were found in the interlobular branches of the portal vein.

*Kidney:* In the kidney the capillaries were hyperemic and hemorrhages into Bowman's capsule space were occasionally seen. The capsule spaces were also sometimes distended and filled with a serous fluid. Degeneration of the tubular epithelium was always observed. The albuminous exudate in the tubuli as well as the lining epithelial cells showed frequently calcium precipitations, a process which reached in some cases a very high degree. Calcifications of the basement membranes of the tubuli and Bowman's capsules as well as of the elastic membranes of the arteries were frequently present.

The study of the causes of the reported pathological alterations has to be based upon the knowledge of the physiological effects of the parathyroid hormone. Regulating the calcium metabolism it controls the acid-base balance of the cells and the body fluids and also the equilibrium of the tonus of the vegetative nervous system. The parathyroid extract administered in physiological doses induces:

1. A prolongation of the systole and a short-

ening of the diastole of the heart through irritation of the pneumogastric nerve.

2. A dilation of the vessels of the internal organs.

3. An intensification of the tonus of the stomach and the intestine.

4. A rise in the calcium level of the blood.

Excessive amounts of the parathyroid extract produce by an exaggeration of the above noted effects:

1. A gradually increasing incompleteness of the diastole of the heart and a slow and irregular pulse resulting in a drop of the blood pressure and an impairment of the general circulation.

2. They induce an excessive intensification of the tonus of the stomach and intestine, causing vomiting and diarrhea.

3. They augment by the highly increased blood calcium the coagulability of the blood to such a degree that the formation of thrombi in the congested vessels becomes imminent.

4. They cause such a supersaturation of the blood with lime salts that these are precipitated in various organs interfering eventually with their proper functioning.

Circulatory disturbances and changes in the coagulability of the blood produced by the injected parathyroid extract have to be held responsible for the reported hemorrhages in the brain, stomach, lungs and for the thromboses in the interlobular veins of the liver and in the capillaries of the heart.

Metastatic calcifications were observed in the thyroid gland, the lungs, the heart muscle, the glands of the stomach, the muscularis of the duodenum, the kidney epithelial cells, secretions and elastic membranes. The occurrence of the calcium deposits in organs which excrete or produce acids as the lungs, the stomach, the heart, the kidneys, can easily be explained by their reaction being more alkaline than that of the blood. The affinity of colloidal substances as found in the thyroid gland is also known. But I can not offer a satisfactory explanation in regard to the diffuse impregnation of the interstitial tissue of the thyroid with calcium salts. An injurious effect of the calcifications upon the function of the involved organ was evident only in the kidney. The extensive calcifications of the tubular epithelial cells and the frequent obstructions of the tubular lumina by calcium casts will inter-

fere with the function of the kidney and the drainage of the urine into the pelvis. A retention of phosphorous, ammonia and titrable acid results as reported by Collip.

The increase of the acids in the blood from this source is aggravated by the retention of  $\text{CO}_2$ , due to circulatory insufficiency, by the existing hyperphosphatemia and the loss of alkaline from the blood by the abundant vomiting and hemorrhages into the stomach and duodenum. These factors work together to change the primary compensated acidosis into a fatal uncompensated acidosis.

Injections of parathyroid extract administered in larger amounts and short intervals should not be given for therapeutic purposes without a continuous control of the blood calcium, because excessive doses of this hormone produce dangerous circulatory disturbances and calcifications in vitally important organs.

Even injections of larger doses in intervals of three to four days to avoid accumulative effects are not absolutely harmless as recent experiments seemed to prove. I injected cats with 15-20 units of Parathormone twice a week over a period of three weeks and could state the occurrence of a few small necroses and surrounding leukocytic infiltrations in the heart muscle and the cortex of the suprarenal gland in several young cats. These experiments were done to study the influence of the parathyroid hormone upon the production and calcification of osteoid tissues. I fractured one leg and controlled the callus formation by weekly x-ray pictures. At the end of the third week the callus of the treated cats exceeded in amount and degree of calcification by about 20-30% that of the control cats. Histological examinations of the fractured bones showed also a higher amount of newly formed bone and a higher degree of consolidation than was present in the control cats. If further investigation should substantiate my present findings I would consider the parathyroid extract as an eventually useful therapeutic in cases of delayed fracture healing and in the treatment of rickets.

Finally I like to call your attention to observations made in the course of the before mentioned experiments with dogs. Dogs which had received injections of parathyroid extract and in which the blood calcium level was raised to around 15



mgr showed a markedly increased production of urine. The histological examination of the organs of these dogs revealed a general hyperemia of the internal organs which was especially pronounced in the vessels of the kidneys. The capillaries of the glomeruli were extremely distended with blood. There were no other pathological alterations in the examined organs, especially no calcium deposits, at this time. Taking these findings in account and considering that the parathyroid hormone is a strong stimulant of the vagus nerve a beneficiary effect of this hormone in cases of oliguria or anuria, being the result of an acute glomerulonephritis or reflex anuria, is very likely. By relieving the vessels of the kidney from the excessive vasoconstrictory splanchnicus tonus the hormone will effect the reestablishment of a proper circulation and the subsequent secretion of urine and excretion of the retained waste products. Moreover, it will raise the blood calcium level which is frequently found to be low (to 3.5 mgr) in glomerulonephritis and thereby arrest the irritability of the muscles. The regulating effect of the parathyroid hormone upon the activity of the heart may be mentioned too in this connection.

### NEUROINIDIA

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Neuroinidia is not a new waltz, a delicious morsel of food, nor is it a hormone from some ductless gland. It is a Greek word signifying nerve starvation and characterizes the same condition in the nerve cells as does hemoglobin and a red cell count in the blood.

Nerve cell nutrition is nothing new; close to a century ago it was pointed out, and can be found in any work on physiology today; nerve cells have a nutrition the same as has blood, bone, muscle, etc.

We fully realize the importance of blood examinations; we are aware of the rapid recovery of patients with anemia when iron is used. Absolutely the same results ensue when nutrition is found low in the nerve cells and it is supplied artificially.

Of course red cells are absolutely essential to life as carriers of nutrition to the most remote parts of the human body, but as compared with the nerve cells, they (reds) would be the same as

a freight train loaded with supplies for a starving community, but having no engine or motive power to move them. In other words, the nerve cells, of which the brain is composed, furnish not only the motor power for the red cells, but power for every organ and gland in the human body. Thus it may be seen that the process of digestion, assimilation and metabolism; the action of the heart, lungs and kidneys would cease if deprived of the power furnished from the brain and sent to the remotest parts through the various nerve ramifications.

But its function does not end with motion sent to the various organs; it furnishes resisting power to every tissue, and especially the mucous membranes; in fact, to give it due credit, it might be said truthfully, with the help of that great biologic force, the mind, the brain is the seat of all life of the animal kingdom.

Today we know that anemia need not be guessed at from facial appearance, etc.; a very few minutes with the urine, if albumin is found and Bright's disease, inflammation (as gonorrhea, pyelitis, cystitis) and certain heart conditions can be eliminated, anemia is the cause. This simple test is as positive as the most careful examination brought forth from any of our laboratories and can be quickly made by any one.

Divine Providence in the creation of man arranged for a reserve to be established in the brain cells for a time of emergency when from disease or otherwise food could not be taken by mouth to supply the required energy necessary for the maintenance of life. This opinion seems to be verified by such men as Prof. Shaw, who in his work on Nervous Diseases, in speaking of neurasthenia, says, "This unstable state of the nervous system depends upon some defect in the neurones to assimilate and store up nutrition in sufficient quantities and with sufficient rapidity to carry on easily and fully the calls for energy."

It is just this very point that should receive emphasis, and especially today when ninety-five per cent of the American public are living far in excess of what was ever intended by nature. We know, and they ought to know, that every action, deed, word or thought comes from the brain, or that region, and the more these factors are brought into play, the greater the calls for energy which is supplied from nutrition.

But nature is kind, if we but heed the calls.

Outside life, that is, in the case of machinery, rest at times is the most essential necessity. A locomotive, an automobile is rested for a time lest the steel construction undergo changes that might impair its usefulness. If insufficient rest is given the human machine, rest so that the batteries (brain cells) may recharge themselves, the reserve must be called on.

When this condition arrives, and if it is allowed to go unchecked for any time, sooner or later depletion must occur which is accompanied by a train of symptoms described as neurasthenia.

Dr. Colton in an article along lines of nerve trouble some time ago summed up the condition by saying, "Without the nervous system there would be no aches, no pains, but without the nervous system there would be no life."

It is a well established fact, at least 75 per cent of the ills of the human race today is functional in nature; that is, there is no underlying pathological change to account for them.

But as with all things that occur, where any abnormality is evident, there is a cause and it is a search for this cause that has lead to many of the theories of the past and present, especially the latest one: local foci, which, of course, are always found in the locality of the man's chosen field of practice.

Taking into consideration that practically every symptom displayed by these cases that might be termed as obscure is referable to the nervous system (pain predominates in fully 95 per cent of them), the writer without fear of successful contradiction must say that at least 90 per cent of them are due to some interference with nutrition, either blood or nerve cell, with the latter predominating ten to one.

We must acknowledge one thing, even though the statement was made by a layman, the late Chief Justice of the U. S. Supreme Court, "A medical diagnosis even by the most expert is little more than a good guess." But we and the patient also can tell very quickly whether this guess is correct. If we are right and our treatment is rational, relief is prompt, or there is a change for the better, if wrong, there is no change.

The sweeping epidemic that has passed over this country during the past few years regarding local foci of infection, that is, that every pain,

ache, even fractured bone, etc., is due to the absorption of a poison from some locality, happy to say is abating. Of course to the eyes of the specialist, all the patients recover. That they do, from the operation, will be admitted, but from their condition (illness) not one in a hundred receive any improvement whatever; in fact, many are made decidedly worse. When we read such opinions as Prof. Pepper, U. P., who says it is a fad, and the various editorials appearing from time to time in medical journals, it would seem that the writer may not be so far amiss in the aforesaid remarks.

In 1896 the writer, while doing some experimental work along the lines of the alkaline phosphates, discovered that a rise or fall in this end product was greatly influenced by the state of the nervous system of the person under observation. Invariably a plus index, as it is called, brought the information that the patient was in a high state of nervous excitement, whereas, on the other hand, when it was minus, or low, they displayed an exactly opposite set of symptoms, the chief of which was fatigue.

Looking at the findings from a practical standpoint it appeared that the plus index demanded sedatives, the minus nutrition. That these contentions were true, and hold good today as they did some years ago, can be easily proven by any one in a few minutes; 95 per cent. of cases of a functional nature will respond quickly to medication directed at the true cause.

(It must be thoroughly grasped that the phosphates under consideration are the alkaline which are only precipitated by an alkaline solution and appear under the microscope as crystals. The earthy, that are at times found in freshly passed urine or show on boiling have practically no clinical significance. If they are present in any perceptible amount they must be filtered out before making the index.)

Although these investigations were carried on some 25 years ago 12 years elapsed before giving them to the profession; the original articles appeared in the *N. Y. Med. Record* 1908-1909-1910.

In establishing what might be called a normal index for a person, the second sample of urine passed in the morning was used, generally about 10 o'clock. At this time the nervous system has been at rest during the night; the elimination of



the alkaline phosphates are at about their normal range for the person under observation.

Fill the phosphatometer with urine to the letter U, add solution\* to S, shake thoroughly and set aside for ten minutes.

When the precipitate remains at N. P. (Phosphatometer) in a fairly solid mass, and especially if the crystals are normal (having well formed fronds), the nervous system, no matter what be the symptoms, may be eliminated as a factor in causation.

Dr. Grover W. Wende, Prof. Dermatology, U. B. suffering from brachial neuritis for six weeks, consulted the writer after all sorts of medication both internal and external for over six weeks. Careful examination of the urine revealed nothing wrong, the index registered N. P., solid with A crystals. Advice was given to see a surgeon, as there was undoubtedly pressure on the nerve. Being a doctor and having heard of some marked cases of relief from a phosphorus mixture, he took it for two weeks, but with absolutely no relief. Finally a surgeon was consulted who found pressure, relieved it and in one hour the pain had ceased entirely.

The writer has observed hundreds of cases where there were most aggravating symptoms pointing to the nervous system, yet the index registered N. P., in all these cases some other condition was found, such as nephritis, beginning tuberculosis of the bladder or kidneys, malignant growth, etc.

When the precipitate remains above N. P. in a fairly solid condition, nutrition is being withdrawn from the reserve in excess, it is due to a hypersensibility or irritability of the neurones and is accompanied by more or less high tension in the nervous system; generally speaking, a high blood pressure will be found in this condition. As to the treatment much depends on the length of time the case has existed. If it is acute, sodium bromid in the elixir valerinate of ammonia is best; if it is chronic some deep seated sedative.

Mrs. S. Sciatica for about six weeks; pain very severe at times. All sorts of treatment, but no relief;

\*Mag. Sulf. Ammo. Chlor. Water of Ammonia (10%, common kitchen variety) of each one ounce, Water 8 ounces. Set aside for a day or so that thorough saturation may take place. This is a cheap solution and can be made by any one in a few minutes.

when tonsil removal was suggested she changed doctors. Careful examination revealed nothing wrong except an index 75% plus. Bromide of sodium, grs 15 in one drachm of Elix. Val. Ammo. every three hours in water relieved her in two or three days; the pain has never returned (5 years).

Mrs. G. Brachial neuritis over a year's standing, almost constant treatment with no relief. No pathological condition found; index 125% plus. Bromide of gold and arsenic, ten drops three times daily increased gradually to 20 brought relief about the tenth or twelfth day; in two weeks there was no pain; she has not been bothered in 3 or 4 years. (The bromides and valerian had been used in this case, they were not penetrating enough to catch the deep centers.

It might be said positively that, in all cases of functional or other conditions in which the nervous system is a factor, at the start the index would show plus; that is, that the reserve was being drawn upon.

Looking at things from a rational standpoint, but one conclusion can be arrived at: where there is a constant withdrawal from a reserve without repletion, sooner or later only depletion can take place; such we find in the nerve cells, such is shown by a low or minus index.

At times it is found that the urine scarcely changes color when the alkaline solution is added, or there may be a precipitate that will not fall, or falls below N. P., even to 95 per cent. If the crystals are examined with such a condition, in practically every case they will show a marked change from normal; there will be no fronds whatever. In this condition the nutrition is not only low, but what is present is of a very inferior type. This is a finding that will be evident in at least 90 per cent. of all cases of a functional nature; that it is the cause can be easily and quickly shown. All one has to do is to supply nutrition artificially and test the case, say in three or four days. The change in the appearance of the crystals will be evident to the most skeptical, and an increase from 20 to 25 per cent. in precipitate will be evident.

But let us go a step further, the patient will report that they are greatly improved; "if finding the string is proof of the pudding," the microscope and the individual has proven the case.

The following is a brief illustration:

Miss S., age 33, public stenographer. This young lady, like most girls of today, had burned the candle

at both ends and as a result she arrived complaining of being so fatigued it was with an effort that she was able to get about. Insomnia was marked; constipated, constant backache, and a leucorrhea that at times necessitated the use of a napkin; her eyes also gave her considerable bother, although properly fitted with glasses. In the six months that she had been under observation she had lost her tonsils, several teeth, had an operation for a tumor, and lastly an abdominal section, being told she had an intestinal kink. No relief whatever was observed.

Careful examination revealed nothing of a pathological nature present but an index 90% minus. She was placed on the following prescription: Res. Podoph. grs. 3, Fl. Ex. Valerian Oz. 1, Comp. Phos. Mixture, Oz. 2. Half a spoonful in milk 20 to 40 minutes after meals. In three or four days she reported improvement, in a week she was sleeping well, leucorrhea was lessening; in two weeks she felt as well as she had in years. At this time the index was 10% minus with crystals all practically normal.

This is but one case of scores, yes, hundreds of similar cases seen by the writer in private and consultation practice. It is true they do not all show a minus index, but fully 90 per cent. do, and with almost similar results in fully 95 per cent. of them, can there be much questioning of the opinion that the cause instead of being a local focus, was due to nutritional changes, especially starvation in the cells?

Another case, and it should demonstrate the great value of the index and appearance of the crystals to the specialist:

Mrs. M. Sudden aphonia; she could not speak above a whisper. A prominent laryngologist diagnosed the condition as paralysis of the left vocal cord, and treatment was given every few days for about two weeks, but without result. She was referred to the writer for an index. This was found 75% minus and practically all crystals E (hysterical). Advice was given to place her on Fl. Ex. Valerian and Comp. Phos. mixture, each 15 drops in milk after meals. In three days the voice returned; in five days she was talking as well as ever; it never relapsed.

Many changes have taken place in the treatment of suffering humanity during the past 40 years of my association with this class, some have remained with us, some were short lived. With the Phosphatic Index the writer is prone to agree with the late Dean of the University of Buffalo, who, in discussing this subject before the N. Y. State Medical Society some time ago, said, "The Index has come to stay; it has given me results that have been most surprising."

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## SURGERY IN BUDAPEST, HUNGARY.\*

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After spending the summer doing postgraduate work in practical surgery in Budapest, Hungary, it is of interest to make a comparison of their surgery with that of the United States, in quality and quantity of work done, and to consider how much work and what kind can be had by a visiting American doctor. As to the first point, the Hungarian surgery compares very favorably with that of the American surgeons, and I believe that is as far as one should go. Their best surgeons are very skillful, some of them speedy and others rather slow. Their internes and young surgeons are no better, perhaps no worse, than ours.

There are four or five outstanding surgeons in Budapest. Purposely I am omitting any names. I had heard of only one of these in America and, strange to say, he was not considered best in his home town, either as to his technique or as to his personality. The chief way we Americans have of knowing a surgeon is through his writings, which really do not reveal much of the character nor of the surgical ability of the man. But they do get him before the profession and the public. The same might be said of the profession and any other profession here or anywhere. Occasionally even the best criminals do not get their names in the *Chicago Tribune*.

On the whole, I thought that their sterile technique was inferior to ours. This is perhaps because they do not need to be careful, as they get very few infections anyway. I have seen a surgeon stop in his operation, put on a pair of rubber gloves, make an internal examination on another patient, then remove the gloves, run his hands through solutions and resume his operation. They scrub only half way to the elbow. They put on one gown and wear it for one operation after another, changing only their gloves in be-

\*Read before Evanston Branch, Chicago Medical Society, Sept. 16, 1926.



tween. In several of the clinics cotton gloves, or no gloves at all, were worn. Only in a pus case do the operators wear rubber gloves or change their gowns afterwards, and the second assistant usually does not rate rubber gloves.

Their operating and ideas did not differ materially from ours, but in the matter of technique, preparation, etc., much that they did was foreign. In one clinic they scrubbed with soap and water fifteen minutes, then manicured, then scrubbed fifteen minutes more with soap and water, followed by bichloride of mercury solution, lysol solution, and alcohol. Next they took sterile hoods out of a sterile container and tied them on their own heads. After this a sterile gown was donned. The patient was brought into the operating room where were four tables in action. Nothing was over his eyes. Screams of frightened or half anesthetized patients mingled with the odor of chloroform and ether, and the sight of blood, pus and corruption. There was no false modesty. The patient without respect to sex was stripped of all his clothes, including the outer layer of dirt over the operating field, and was bound hand and foot on the operating table, pads being used to protect both radial nerves. The field was cleansed with ether and alcohol and painted with "Kabala," a special preparation of iodine which was alleged not to burn. This was done before the anesthetic, if a local, otherwise after. The sterile drapes were sewed to the skin by an assistant. Then the operations were performed by the head professor with great dexterity and speed, by his assistants with lesser degrees of accuracy, or by the interns with the usual fear, trembling, and blundering witnessed in their contemporaries in this country.

Thyroid operations were done with this same carefree preparation, which would no doubt make Dr. Crile roll over in his bed, always under a local anesthetic with the patient sitting up and head thrown back. The operative technique was beautifully done, usually both upper and lower thyroid arteries were exposed and tied and then the gland, or such portions of it as were required, was resected.

Breasts were removed, using Kocher's incision in one clinic and an elliptical in another. Gall-bladders were usually removed. I saw none drained. The position of the patient was ideal, for excellent exposure was obtained by placing

a large sand bag or two, like the old sausage shaped sofa pillow, directly under the lower thorax, thus partly raising the upper trunk, so as to push the gall-bladder and liver forward almost out of the wound, and lower the intestines by gravity. In one clinic the common duct was opened on suspicion. Appendectomies were invariably done with McBurney's incision and no other organ examined at the time. Bassini's operation was used in inguinal herniae.

The bone work which I saw was on the whole very much behind ours, as no electric saws or drills were used. But their knowledge of anatomy and surgical anatomy was appalling. Even the youngest assistant recognized the gemelli muscles when they saw them, or realized the location of Winslow's foramen, or knew that there was an inferior mesenteric artery and where. One assistant twenty-eight years old, had been a doctor eight years, taught anatomy five years, pathology three years, and dissected every afternoon for two years since graduating.

Brilliant work was done. I saw especially good work done on goiters and gall-bladders. The thyroid seemed to come out almost bloodlessly, while the gall-bladders popped out like the famed sweet potatoes in the Georgian March. Little concern was exercised when a cystic artery bled, in fact, in one clinic they cut it first before ligation and watched it spurt to make sure that they had it.

As we learn more by our mistakes, so perhaps the apparent errors of others teach us what not to do. I saw two patients with a foul purulent empyema as a result of perforation of the esophagus by the attempts to dilate strictures due to swallowing potassium hydroxide. From one of these we obtained quarts of pus. As the solution of KOH is used by many of the poor for cleansing in place of soap, it is easily obtained and is a favorite method of suicide, though painful. Since there average twenty suicides a day in Budapest alone, more than any place else in the world, the KOH was almost at a premium for self-inflicting death.

A woman came in one afternoon with an acute abdomen. The young doctor diagnosed ileus, but not severe, and she was not operated on until the next day when the fever was high and her belly distended. A McBurney incision was made in order to do a caecostomy for drainage, and

although a purulent peritonitis was present, simply a caecostomy was done, even though very little fecal contents or gas was obtained. Two days later the autopsy showed a perforated gangrenous appendix.

A man with epigastric pain was given a large barium meal for x-ray examination. One hour later he died quickly after severe pain and autopsy showed a perforated gastric ulcer the size of a dime, due to the load of barium.

A man with a limp was diagnosed ununited fracture of the femoral neck. At operation a solid bony union was present, but a coxa vara had resulted from the upward slipping of the lower fragment in the neck before union. The x-ray was considered to blame for this.

A child of six years was operated on for "unreducible" supra condylar fracture of the humerus and most of the lower end of that bone removed.

I saw the cleverest work one day in the eye clinic, where Professor Emil Gross, one of the foremost, if not the best, eye man in Europe, and his assistants did in succession six cataract operations in less than an hour, all under local, one in a boy six years old. The way that great professor handled that tiny boy would have brought hot tears of envy to the eyes of a Montessori Kindergarten teacher.

In considering the subject of surgery for Americans in Budapest, the important question is, "Can an American get practical work there?" The general answer is, "Yes, he can." If by that an American surgeon or embryo surgeon thinks that he can go to Hungary, pay down so much cash and be turned loose among the unfortunate Hungarians and hack, chop, and saw to his heart's content, he is wrong. What he can do is to go to the head surgeon at one of the clinics or hospitals, of which there are several, and, preferably with a letter of introduction, ask the surgeon if he can work in his clinic. If the surgeon says "Yes," then the American can go without further bargaining. However, it is best not to be too trusting, but to make his contract as he would if purchasing anything else. Usually the chief surgeon will promise so many operations a month or a week for so much money and it all sounds very rosy, although gilt edged. Still

the difficulty is not over. The operations may be boils, ingrown toenails, or sebaceous cysts, and very little of that. In this case it would have been better to have stayed in Vienna or enjoyed Paris, or even stayed at home. On the other hand, the surgeon may have a good many major operations and be willing to allow the American to do some each day or so many a week. This would be most satisfactory. Then, too, the amount and kind of operation depends on the ability of the American in part, or at least upon the surgeon's or assistant's opinion of his ability. In fact it is a good deal as it was when we were internes at the Cook County Hospital, the amount and quality of the operations which the interne was allowed to do varied with the generosity of his attending man and the latter's opinion of the interne's ability.

Excellent urology can be had, and practical cystoscopy where one can learn to catheterize ureters and see more tuberculosis of the bladder at the same time, than in many places in a year. But the best is the cadaver work where a fresh one can be obtained daily, and an occasional excellent instructor be had. Each afternoon can be spent by repeating operations on the stomach, thyroid, gall-bladder, bones, or anatomic problems can be solved. This alone is worth the trip to Hungary.

And so the summer passed with work from 8 A. M. to 8 or 9 P. M., with a sandwich for lunch while going from one clinic to another or while waiting one's turn in the cystoscopic room. The Hungarians were excellent people, most polite, yet somewhat aloof; friendly, but calculating. The "rich" Americans were there to be used and this was the Magyar's opportunity. They thought the Americans must be crude, for did they not come all the way from America to learn the first principles of surgery? They judged American surgeons not by the Mayos, Murphys and Kanavels, but by the handful of half-baked, mostly Semitic novices who came there to glean the rudiments of anatomy from their abundant cadaveric supply. Their customs, manners, and speech were different, but they were extremely polite to the stranger within their gates.

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## EARLY DAYS AND EXPERIENCES IN PSYCHIATRY—1870-1900

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In 1871, when I became an assistant physician at the State Hospital for the Insane at Elgin, I had finished the usual medical course, had had a year of hospital experience and practice and also a year of study and practice in Germany; but when I asked myself what I knew about insanity, I confessed that I had everything to learn.

### LACK OF INSTRUCTION IN PSYCHIATRY

If I speak of this, it is only because my experience was typical of that of the medical practitioner of that day. His early education in psychiatry was neglected. In most of the colleges of our land, the medical graduate could complete his entire course without ever seeing a case of mental disease. If he obtained any experience in this line, it would be only through his own initiative. Psychiatry was not taught, and the state institutions of Illinois were remote from the medical centers and remote from the thought of the faculty. This was true of the country as a whole. Insanity was a thing apart: anatomy, physiology and pathology, as applied to the psychoses, left a wide gap which had to be filled, and anatomical search of the brain yielded little light on insanity. The necessary advance in cellular pathology, microscopy, in section-cutting and staining and in bacteriology was still far in the future, so was the understanding of mental mechanisms and complexes that have been since unraveled. The physical basis of mental disease, the connecting of the psychoses with certain definite, cellular or biochemical pathologic changes, was not possible with the powers of investigation then attainable.

### ABSENCE OF RESEARCH IN FORMATIVE PERIOD

Research was rife in the older European countries, but in our new and incomplete stage of development, the time had not arrived for it. Indeed, criticism was encountered of such work as was done; Professor Westphal of Berlin in the Virchow-Hirsh year book of 1874 criticized the cuts in the *American Journal of Insanity* for July, 1874, in an article on the "Pathology of Insanity." He said that the illustrations in this

article were "*so gut wie gar nichts*" and expressed ironical envy of the author. E. C. Spitzka also, in his textbook, commented on "*arte facta*" appearances in photo-micrographs which resulted from faulty manipulations and were not true pathologic observations.

The institutions for the insane were in change of medical superintendents, who were necessarily absorbed with executive duties. The institutions were not provided with equipment, laboratories in which to work, or instruments and apparatus. The medical and nursing staffs were inadequate; there were no internes, and each assistant had several hundred patients to look after. The *Journal of Nervous and Mental Diseases* had just begun its important career in Chicago, which was later continued in New York. This journal owed its existence to the scientific enterprise of Dr. J. S. Jewell, professor of nervous and mental diseases in the medical school of Northwestern University. Dr. H. M. Bannister was an able editorial coadjutor. This journal complained editorially of "too little zeal shown by American alienists" (April, 1878) and feared "that asylums would not bear close scrutiny" (July, 1879).

### INCIPIENT STAGE OF DEVELOPMENT

An idea may be gained of the stage of progress at the time by a few illustrations. The standard text-books were those written by Bucknill and Tuke, Maudsley, Griesinger, Esquirol, Isaac Ray on Jurisprudence, Hughlings Jackson, Krafft Ebing. Charcot's "*Maladies du Systeme Nerveux*" did not appear until 1873. The study of localization of the brain was in its beginning. The researches of Broca in France and of Ferrier in England were becoming known. Yet there was little knowledge in America of the keen activity of continental workers. The agency of syphilis in tabes and general paralysis was suspected but not generally recognized. In America, Hammond and Spitzka had produced text-books. Beard had described neurasthenia.<sup>1</sup> Classification of psychoses was at that time made along traditional lines, and labels were applied to cases instead of integrating and differentiating them, as is done today. Krafft Ebing's description of paranoia was not written until 1879, and Kraepe-

1. A fact not generally known, recently unearthed by Dr. Bassoe, is that Van Deusen of the Kalamazoo state asylum had previously reported the symptoms and used the name "neurasthenia."

lin's dementia praecox and manic-depressive syndrome were far in the future.

#### DIFFERENTIATION IN INSTITUTIONS FOR MENTAL DISEASES

In 1870, provision for the widely varying forms of mental diseases and defects was in its crudest beginnings. There was no separate provision for the criminal or convict insane and none for epileptic or alcoholic patients. These were indiscriminately thrown together in the state hospitals. The psychopathic hospital had not then been heard of. I discussed "Differentiation in Institutions for the Insane" in the *"American Journal of Insanity."* Dr. Jewell gave me an opportunity to write upon "Provision for Insane Criminals" in the *Journal of Nervous and Mental Diseases*. Today these requirements have been largely met, after a long struggle in enlightenment of the people, and efforts with the legislative power to secure appropriations.

#### CONDITIONS IN THE SEVENTIES

The conditions following the Civil War were such that there was a vast accumulation of mental disease, since during the war, nothing was done to meet the situation. After its close, the revelation of these aggregates of mental disease produced an era of agitation for relief throughout the country, and from that time until the present an intermittent effort has been in progress to endeavor to catch up with the conditions which have been rendered more and more urgent by immigration, natural increase of population, and one may say, the remarkable fecundity of the feeble-minded, who "increase and multiply," but do not "replenish the earth."

Neither Illinois nor the other states have ever overtaken the pressing needs. Everywhere the institutions are overcrowded, and hundreds are waiting to be admitted. About three years ago, the state of New York appropriated \$50,000,000 in an effort to remedy the ills then existing, and an active campaign is now near completion there to overtake the crying need. Illinois is proportionately in need of legislation and appropriation analogous to that of New York.

#### ESTABLISHMENT OF TRAINING SCHOOLS

In early experiences in the care of mental diseases, it was found that there was an essential difference between the medical service for mental diseases and that of the general hospital, owing

to the fact that every particular of daily life must be supervised for those deprived of reason. In their helpless condition, they were especially liable to neglect and abuse, and the attendants and nurses in their care needed training and instruction even more than those in general hospitals. The sense of this need led to the development of training schools, which began to be established in the early eighties. The first to gain formal organization and recognition had its inception under the initiative of Dr. Edward Cowles at the McLean Asylum and was a department of the Massachusetts General Hospital. His first trained class graduated in 1883 and was composed of women, but both men and women were included in the later classes. The first school in a state institution was started by Dr. W. D. Granger in the Buffalo State Hospital in 1883. Dr. Granger published a useful text-book, "How to Care for the Insane." In 1886, a school was inaugurated at Kankakee, and the first class graduated in 1888 after two years' training. Thereafter classes graduated regularly until 1893. In 1892, a political upheaval led to dismissal of the medical superintendent, and this particular training school came to an unfortunate end for the time being. But the movement for this great advance was definitely established, and was continued universally. Today there are sixty-one such schools standardized under the rules of the American Psychiatric Association, and a large number of such schools are now in process of standardization.

#### DEVELOPMENTS OF DETACHED WARD OR SO-CALLED "COTTAGE" SYSTEM

In 1869, a State Board of Public Charities was created, and two new institutions were established: the Northern Hospital at Elgin and the Southern Hospital at Anna. The secretary of the new board was Frederick Howard Wines. Mr. Wines had been interested in advanced ideas regarding construction of institutions for the insane. All such institutions up to that time had been built on the uniform plan of a massive central building. He believed in securing greater variety for the dwellings of the patients and felt that a two story building, more like an ordinary house, would in all respects serve the purpose for a majority of the patients and cost about one-third as much as the old style of building. This plan was given the name of the "cottage system"



and was popular with the laity. Dr. Wines had sought unsuccessfully to have this plan adopted at Elgin or Anna. When, however, the plans for a new institution at Kankakee were formed in 1877, it was decided to try the so-called "cottage" idea. Three such buildings were provided at first to receive 100 patients, and it fell to me, as medical superintendent, to carry out this plan. Experience with the three first cottages or "detached wards" was favorable, and at the next session of the legislature the sum of \$400,000 was appropriated with instructions to build detached wards for 1,000 patients. These instructions were promptly carried out, and the result was general approval of the new departure. This method, the so-called "cottage," detached ward or "village" plan, met with immediate adoption in other states: Indiana, Ohio, North Dakota, Toronto, Canada and New York at Ogdenburg. Further extensions were made at Kankakee in the same style, so that after fourteen years, when I retired from the superintendency in 1893, the number of patients had reached 2,000.

#### ABOLISHMENT OF MECHANICAL RESTRAINT

I have elsewhere<sup>2</sup> discussed the struggle for the abolition of mechanical restraint in the care of patients with mental diseases. I refer to the use of straight-waistcoats, leather muffs and other appliances supposed to be needed in the care of disturbed patients, and also the use of "seclusion," which means confinement of a patient in his or her room with the door locked. It was found that after the middle of the century decided difference existed in respect to the use of mechanical restraint between the institutions of this country and those of England and continental Europe.

Without going into the details of this situation, I may say here that this difference was eventually found to have grown out of the methods under which institutions started in this country. It was natural to suppose that persons deprived of the use of reason would be lacking in self-control, and that being unable to reason, methods of control might be necessary in regulating and tranquilizing them; of course, this was true in exceptional cases. But the difficulty was that it was taken for a universal rule; restraint was not

carefully supervised, but left to the discretion of attendants and nurses who, without training or especially reasoning in regard to the matter, would take what seemed to be the shortest, easiest and to them seemingly the best means, instead of employing *persuasion* and *milder methods*. The presumption with uneducated persons would be that an evil spirit had to be dealt with. Almost unconsciously, the ancient superstition of "demoniacal possession" would rule in the mind of the uneducated attendant.

The history of the nonrestraint movement shows that it originated with the philanthropic labors of the illustrious Pinel in France and with the humanitarian efforts of William Tuke, the Quaker reformer in England at the end of the eighteenth century, and was enforced and broadened in scope by Dr. John Conolly at the great London institution at Hanwell, where for ten years he furnished an example of absolute discontinuance of restraint. This sentiment and disposition extended and prevailed in England and on the continent almost universally.

The beginning was made in an unfortunate way in our country and the evil continued and grew by what it fed on, so that eventually a whole generation of the disturbed and destructive patients had grown up in our institutions, and restraint was taken for granted as *necessary*; it was even advocated by men in positions of authority in the institutions as being a proper means of treatment. But the inquiring spirit of the newer generation brought out the truth, and in 1890 it was no longer claimed, as it had been at first, that patients in American asylums were more independent and unruly than the subjects of monarchies, or that the climate of this country, being more stimulating, led to greater degrees of excitement and perturbation. By the end of the nineties, mechanical restraint had become a thing of the past or was used only in emergencies. It was seen that violence resulted more from injudicious handling than from viciousness in the patients themselves.

#### THE WISCONSIN SYSTEM OF COUNTY ASYLUMS

During the period I am reviewing, an active and able board of charities in the State of Wisconsin developed a system of "county asylums" unlike any to be found in other states, which were thriftily managed and subvented by the state treasury, which paid half the expense of

2. In paper read before the Medical History Society of Chicago, March 18, 1927, "Progress in State Care of Mental Diseases."

maintenance. These institutions were exceptionally satisfactory in a way, but were after all no exception to the rule that county boards of supervisors are by the nature of their origin suitable only for purely economic functionaries, not for the management of benevolent or charitable enterprises. The board gave their institutions the name of "semi-state asylums" and in a paper on "Outlines of State Care," read at Omaha in 1889, I expressed the opinion that "semi-state" care would eventually become "demi-semi," and ultimately "hemi demi semi state care." The later developments have now shown that, although such institutions can well meet the material needs, the lack of medical oversight results in an absence of the study and treatment which should be made in individual cases. The medical care is provided by engaging a general practitioner who, as a rule, knows little of psychiatry and is apt to be chosen on account of his willingness to accept meager compensation and to render meager services.

#### EVILS OF POLITICAL MACHINE METHODS

The demoralization of the training school at Kankakee through political interference has been mentioned, and in this connection a statement of other instances of the same sort and their results may not be out of place. In the eighties when the Cook County Asylum was under the infamous control of Mike McDonald and a board of county commissioners, some of whom were afterward sent to the penitentiary, Dr. James G. Kiernan and Dr. S. V. Clevenger, men of competence and ability in psychiatry, endeavored to accomplish something in a medical and scientific way at the county asylum at Dunning. The efforts they made to improve the service brought them in conflict with the political ring in control. Dr. Clevenger reported some of the abuses to the medical profession and to the public, and shortly afterward was fired at while sitting reading in his room. The bullet narrowly missed members of his family. This occurred in the evening, the shot having been sent through a window. Dr. Kiernan, when seeking to suggest improvement in the conduct of an attendant, was asked by the man whether Kiernan thought he had "pull" enough to get the attendant discharged, and thereupon the attendant landed with his fist on the doctor's person. The doctor was so "beaten up" that he was in bed for several days thereafter. Both of

these medical officers shortly retired from their dangerous positions.

The election of Governor Altgeld in 1892 resulted in a clean sweep in the institutions. Altgeld was personally desirous of good management, but the men selected by him in some instances were politicians of the machine type, who prostituted their positions for personal benefit.<sup>3</sup> The situation at the present day is less disgraceful than in that earlier period, but it is known today that men of exceptional merit have been thrown out of their positions to give place to their inferiors in a medical and scientific sense. Governor Small, when he was "boss" of the political machine of Kankakee, used the employes to further his political ambition, sending the brass band composed of employes of the state hospital to play at political rallies. In the early nineties, when Governor Altgeld appointed the owner of a brewery and a saloon in Kankakee as a member of the board of trustees, excursions were advertised by the railroad, with Kankakee as their objective, and the mobs who patronized the brewery invaded the grounds of the hospital, creating a scandal which Dr. Clevenger endeavored to obviate by instituting rules for admission to the hospital grounds. These rules were found to be absolutely impossible of enforcement, and were totally ignored.

#### KEELEY CURE FOLLOWED BY INSANITY

In 1890, 1891 and 1892, the reception at Kankakee of eleven patients who had taken the Keeley cure at Dwight led to the question whether this treatment tended to the development of psychosis. The history of these cases showed that three of them might be regarded as the direct outcome of the treatment, and in the others it was properly regarded as an exciting cause with constitutional and other complications.

#### SOME NOTES ON THERAPEUTICS

In the olden time, there was excessive use of hypnotics and narcotics, not only in the institutions, but in general practice. Patients were often brought to the hospital drugged, in an ignorant and excessive manner; even in the institutions, there was routine use of sedatives and narcotics. The days of venesection and tartar

3. I obtained some of the facts here presented from a book entitled "The Don Quixote of Medicine" written by Dr. Victor Robinson with the collaboration of Dr. Clevenger.



emetic were long past, but chloral and conium (the hemlock Socrates drank) were used. Later it was found that other calmatives, warm baths, hot milk, or even letting the patient alone, would do as well. In those days, "chemical restraint" was often used with or without mechanical restraint. Bromides were universally and often excessively used.

The various "therapies" are too numerous to dwell on in the limits at my disposal. In regard to hydrotherapy, I shall mention experience with the prolonged warm bath. In an early day here and in Germany, it was forcibly employed, even bath tubs with tops that fastened down were used, but attendants soon found that force was not needed, and that it would hinder rather than help, because patients would willingly stay hours or days together in the tub, and would even sleep and eat there.

#### ESTABLISHMENT OF PSYCHOPATHIC HOSPITALS

Late in the nineteenth century, developments occurred which led to the establishment of the psychopathic hospital as it is known today. Until in the late nineties, this conception had existed only as an ideal. Griesinger described the essentials of such an institution in 1868, and in 1867 Dr. Pliny Earl said that a "psychopathic hospital" might be regarded as a probable future development.

The first actual step in this direction was taken at Albany, N. Y., where, under the advice of Dr. J. Montgomery Mosher, an able and experienced psychiatrist, a separate building was constructed for mental cases in 1902. "Pavilion F" was the name given to this first separate hospital and clinic for mental diseases under the direction of an able psychiatrist. In 1906, a psychopathic addition to the medical school of the University of Michigan was the culmination of years of effort on the part of Dr. William J. Herdman. This was the first psychiatric clinic in connection with a university medical school to be established. In 1902, Dr. Adolf Meyer was appointed director of the State Pathological Institute of New York, where both clinical instruction and research were carried on. From this position, Dr. Meyer was called to direct the Phipps Psychiatric Clinic of the Johns Hopkins University School of Medicine in 1913, I believe. Separate wards for the reception of patients with acute cases and for hospital treatment were established at Buffalo

State Hospital at Kankakee, Pontiac, Kalamazoo, Bloomingdale, McLean and Butler hospitals. A state psychopathic institute was conducted by Dr. A. L. Singer from 1907 to 1911 at Kankakee. The Boston Psychopathic Hospital was opened in 1913, and ranks high as an institution of this character.

Some men who later attained prominence in the profession rendered service at Kankakee. At the opening, and for about three years, Dr. Harold Moyer was assistant superintendent. His choice of psychiatry as his specialty naturally followed his service there. Dr. Ludwig Hektoen, before taking his internship at the County Hospital, gained half a year's experience at Kankakee. Dr. Cassius D. Westcott served about two years as assistant physician, later specializing in ophthalmology, and Dr. A. J. Ochsner, during a summer vacation, gave instruction in microscopy. Dr. Adolf Meyer came to this country from Switzerland in 1893. I learned of him through Dr. Hektoen just at the time when Dr. S. V. Clavenger became my successor. On the recommendation of Dr. Hektoen, I advised Dr. Meyer's appointment, and he was given the position of pathologist by Dr. Clavenger. His subsequent career is well known. He served from 1893 to 1895. Through his influence, the exhibit of the German government at the World's Fair with some valuable apparatus was secured for the state hospital. Dr. Meyer inaugurated staff meetings and a course of instruction and improved the methods of recording cases.

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#### FUNDAMENTALS IN THE FEEDING OF UNDERWEIGHT CHILDREN\*

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Not many years ago the problem of nutrition rested on the daily consumption of protein, fat and carbohydrate in such amounts that the twenty-four-hour ration would total a requisite number of calories. It was known that more calories were required if much physical work was done, also that water, and inorganic substances were necessary, and that children have higher caloric requirements than do adults. Since then the nutrition laboratory discovered that not all food-

\*From the Pediatric Department of Evanston Hospital.

stuffs in a certain class have equal value—that some proteins are inferior to others—that their value for growth and tissue building varies with the amino-acid content. More recently the importance of the accessory food substances—vitamins—Fat Soluble A, Water Soluble B, Water Soluble C, and Fat Soluble D (antirachitic vitamin) was discovered. A well balanced diet should contain about four times as much carbohydrate as protein or fat, and about equal amounts of protein and fat. Children's diets must contain proportionately more protein than adults', for the building-stones—amino-acids—are most essential for the growing organism. Meat and milk contain abundant amino-acids which enter into synthesis of the protein of body cells. In estimating the value of any diet one must remember these facts, also, that its utilization by the body is never complete, but varies with the foodstuff, the digestion and assimilation powers of the individual.

The importance of a properly adjusted diet, ample rest and restricted daily routine are seldom sufficiently emphasized in the treatment and cure of a number of otherwise chronic or progressive ailments. These valuable therapeutic measures have long been employed, however, in the treatment of tuberculosis. Czerny of Berlin has such confidence in his five meal, high fat and protein diet in the treatment of tuberculous children, that he once made the claim that no tuberculous child in his clinic had ever developed military tuberculosis. Pirquet in his recent book on diet, says: "All the cures which, in the course of time, have been advised for tuberculosis, culminate in the therapy of feeding. Patients sent to the seashore, mountains, desert, or warm valley, all have in common good food and rest. . . Children must remain at table until all food is eaten. . . . The increase in weight of malnourished children on a five meal diet is usually very great in the first month, and after that lessens slowly." He concludes this chapter by saying: "The results have been so satisfactory that all other methods of treatment have been omitted."

The alarming incidence of physical unfitness among our young men during the draft, the simultaneous "discovery" of the "neglected" preschool child, and the valuable contributions on vitamins and diets from the experimental labora-

tories of nutrition led the pediatrician, school physician and health worker, about a decade ago, to focus their attentions on underweight children. Nutrition clinics, "malnutrition" classes and school lunch-clubs soon had their inception, and have done excellent pioneer work in the improvement of the nutritional state of many underweight children. Excellent treatises by Emerson of Boston, Charles Hendee Smith of New York and Kaiser of Rochester (New York) show what can be accomplished with large groups of underweight school children. The technique evolved by the clinicians Emerson and Smith was followed by Kaiser, who questions the permanency of the results obtained.

In the latest edition of "Newer Knowledge of Nutrition" McCollum says: "The system of diet which can be confidently recommended with assurance that it will go a long way toward improving the physical fitness of the nation is a very simple one. . . . It includes the best elements from those several systems of diet which have been thoroughly tested in human experience, and have been found successful." He recommends that every daily ration should include a quart of milk, some leafy vegetable and some raw fruit or vegetable. The remainder of the food-supply may safely be derived from any of our ordinary cereals, tubers, sugar and meats. To this should be added for children, cod liver oil and outdoor exercise in the sunshine. He reiterates that we should not be content to speak about a "normal" diet, but should recommend "optional" diets. This is especially true when we deal with underweight children. An extensive investigation conducted in a large institution for colored children found most of the children malnourished, and that they were being fed a diet which was deficient in quality and in quantity. His conclusions are: "improvement of the dietary is of the greatest significance for the welfare of a large percentage of American children of the present generation. His experiments prove that butterfat and egg yolk fat contain the unique dietary property which greatly promotes growth. Also, that milk and leaves of plants in a diet correct the defects of cereals, tubers, roots and meats. The discovery of these "protective foods" about 1915 opened a new era in nutrition. Terman, a year before, came to the conclusion that one out of every ten school children was suffering



from a grave form of malnutrition. Despite the increasing application of this newer knowledge of nutrition during the following years, Leete's summary in 1921 shows that 15 to 25 per cent of American school children are still suffering from malnutrition.

Cross in 1923 states that: "Investigation has shown that 96 per cent of the children coming to this country from the southern part of Europe have sound teeth, while it is well known that the teeth of 96 per cent of American children are defective. The trouble lies in great measure in faulty nutrition during prenatal life, infancy and childhood. A satisfactory diet is essential for the development of a sound set of teeth. Investigators have repeatedly pointed out that we derive a relatively larger part of our diet from refined cereal products, sugars, muscle meat and potatoes, a combination of foods which does not support satisfactory development, longevity and fertility in animals studied experimentally.

Improvement of the nutritional state of underweight children is one of the most important tasks of the practicing physician, not because parents realize that something should be done if a child is appreciably underweight, but because it not infrequently is the physician's most potent weapon in the prevention and treatment of a number of otherwise chronic ailments. Underweight children with disease of the heart, blood, urinary system or gastro-intestinal tract, including acidosis and diabetes should not be treated by these methods, as they usually require special diets and therapeutic measures. On the other hand, malnourished children with tuberculosis of the lymph glands, pleura, bones and joints; children with insufficient or improper food or rest; anorexia, the result of improper environment; goiter, without increased metabolic rate, secondary anemia and tardy rickets, yield the best clinical results. In fact, frequently, the weight increase and improvement of the pathological condition are coincident.

During the past five years we have used a vitamin-rich, 5 meal diet in several hundred children with the above enumerated ailments. If the regime is consistently followed for several months, the results are usually so striking that the diet and rest must be given the credit for the improvement. In contrast to other established methods it might be called an individual, inten-

sive method for each child is started on the diet as soon as a diagnosis is made. With the aid of a special note book, containing a list of 100 calorie portions, the mother or nurse can readily compute the daily food intake. A two-day record each week aids in determining the quality and quantity of food eaten. If there is no progress, or if the underlying condition warrants it, the patient should be seen oftener than once a month. Children not confined to bed should indulge in the proper kind of exercise and play. Most of these children should be up less than ten hours a day. The rules we attempt to enforce are as follows:

1. The cooperation of the patient, with the parent and the physician is important.
2. The quantities of food should be governed by the age, digestive capacity and appetite of the child.
3. The child must consume enough of proper food each day to insure a consistent gain in weight.
4. No food should be served ice cold.
5. Milk may be flavored with sugar, malted milk, cocoa or vanilla.
6. Ample rest (breakfast and supper in bed), fresh air (window open at night), sunshine (sunbaths before the noon meal on warm days) stimulate the appetite, digestion and assimilation.
7. No food and very little water should be given between meals.

Smith's figures on 110 children in the nutritional class at Bellevue Hospital showed that 57 per cent gained on a 3 meal diet 1.7 times the average rate for their ages. The tuberculin test was positive in 54 per cent of his cases. His best case showed a gain of 12½ lbs. in six months. Most of his patients came from New York City's tenements, but he had the aid of trained nutritional workers in the homes, and such incentives as photographs before and after, prizes and rewards helped to keep up the interest of parents and children. The average gain in our last thirty children, suffering with the above enumerated ailments was over eleven pounds for the three month period of intensive feeding—about 5 times the average rate of gain. Fifty per cent of our patients had a positive tuberculin reaction. Our best case showed a gain of 19 pounds in three months. These results were due to the fact that in the evolution of our technique the prin-

ciples advocated by Czerny, Pirquet, McCollum, Emerson and Smith were incorporated. To bring a child's weight within normal limits for height and age and to keep it there is not only a prophylactic measure, but a potent therapeutic aid in the treatment and cure of a number of otherwise chronic ailments.

## DIATHERMY IN UROLOGY AN EVALUATION

C. OTIS RITCH, M. D.

CHICAGO

The really tangible results from the use of diathermy in urology is diffused throughout a mountainous literature, most of which, needless to say, is supplied by the commercial houses. However, much scholarly and prolific work has been produced by diligent students of medicine. But some of these, I am inclined to believe, show a tendency to be carried away by their enthusiasm for this relatively new addition to our armamentarium. In an effort to separate the chaff from the grain, and place a value upon the use of diathermy in urology this study was undertaken. Negligible as well as satisfactory results are tabulated. Quite a bit of the material for this study was derived from Dr. E. W. White's service in the Urologic Department of the Alexian Brothers Hospital. To him I am greatly indebted for the privilege of reporting my conclusions of the cases that came under our observation at that time and are included in this survey.

The urologic conditions treated by diathermy are arranged, for the most part, according to the number of cases in each particular group.

Two cases of lymphangitis of dorsum of penis were treated with diathermy with apparently beneficial results.

Peri-urethritis was encountered but three times other than in a suppurative state, and it was felt that diathermy was of value but only in conjunction with other established forms of treatment.

There were four cases of plastic induration, plaques, or calcium deposits in the sheaths of the penis. In three no change could be detected.

In the remaining case, following four diathermy treatments the organ no longer had a dorsal curvature but remained straight during erection. I am not quite certain but that an asso-

ciated peri-urethritis and folliculitis was overlooked at the initial examination. These being benefited by the diathermic treatments which permitted the organ to assume its proper shape during erection. I should certainly hesitate to say that any resolution of the calcium deposits took place.

Pain in the epididymes and testes, neuralgia testis, is not an uncommon accompaniment of chronic epididymitis, stricturous urethritis, seminal vesiculitis, and prostatitis. Nor is it a rare complaint when there is no demonstrable lesion in the urogenital tract. Three such cases are reviewed here. All were benefited, remaining free of the pain or neuralgia for varying periods of four to six weeks. These patients could be induced to return for treatment only when the pain returned.

Strictures proved obstinate to this modality. Fourteen cases were treated before its use was discontinued. The only notable result was in a case of impermeable stricture that was sufficiently "softened" that a filiform guide was later passed by the obstruction. Even here the diathermy might have played no part.

Six cases of the non-suppurative type of inguinal adenitis were treated with no appreciable value over other methods of treatment.

Ten cases of folliculitis were treated by this method. These apparently progressed more favorably than usually obtain with other forms of treatment.

Fifteen cases of gonorrheal arthritis were treated with gratifying results. The pain was controlled very promptly and their stay in the hospital varied from three to four weeks. On the contrary those who received only local applications to the particular joint or joints involved stayed in hospital between five and six weeks on the average. In those receiving local application and only occasional diathermic treatment no decrease in the time of their sojourn in the hospital was noted. All cases of gonorrheal arthritis received appropriate treatment to the urethra and adnexa.

*Seminal Vesiculitis and Prostatitis.* These structures are so intimately related anatomically and clinically that it is better to discuss them jointly. It is impossible to tell, with a great degree of accuracy, when an electrode is in coaptation with either or both vesicles; however, one



can be rather certain whether the electrode is properly applied to the prostate. For this reason one's conclusions are more uncertain relative to the vesicles than the prostate. The conclusions I now hold I may and possibly will change with time. I have seen no appreciable benefit in either of these conditions. Immediately following a diathermic application to the prostate one generally finds quite a noticeable decrease in the size of the gland. This is apparently of short duration as at the next visit the patient will complain of more discharge and prostatic symptoms. The urine contains more shreds and debris, the gland is larger and more products of inflammation can be expressed. One would expect just this condition to prevail, except the immediate decrease in the size of the gland. This decrease is not constant. One would expect to find a slightly larger gland since the cardinal virtue of diathermy is the production of heat within the tissue thereby causing an active hyperemia. I have not been able to use this treatment more than five times in any case of prostatitis. I find that patients will not submit to any form of treatment which they think aggravates their condition.

From my experience with diathermy in chronic prostatitis I have developed sufficient temerity to deter me from using it in the acute infections of this gland. In contrast to this view Greenberger and Greenberger<sup>1</sup> in a recent article state that they aborted 16 of a total of 19 cases of acute prostatitis and prostatic abscess. We should remember in this connection that a vast majority of cases diagnosed as prostatic abscesses will resolve under the expectant plan of treatment.

*Acute Epididymitis.* One hundred fourteen cases of acute epididymitis were observed; of these, 12 were non-specific; 102 were of gonorrheal origin. In this group of non-specific cases ten received diathermy, eight being benefited in varying degrees. The other two later formed abscesses and were incised and drained. One of these followed prostatectomy. The other was a case of stricturous urethritis dilated by a sound and developed the acute epididymitis. This case had evidently reached its maximum and was beginning to subside when the diathermic applica-

tion was made. The following day a suppurating epididymitis was incised. It is quite possible that both of these were cases of pressure necrosis.

In the group of one hundred two cases of gonorrheal origin twenty-five were operated on (epididymotomy) and forty were treated along the usual line of hot sitz baths, hot fomentations, absolute rest in bed and elimination. The result of the diathermy varied from the most spectacular improvement to frank disappointment; but as a group their stay in the hospital was less than either of the other groups. In this connection it might be well to mention the more striking response to treatment of private patients to others. This is undoubtedly due to the fact that private cases report to one's office sooner than the service case who generally seeks relief after the affair is a fulminating one. In private practice I have, with but one exception, kept patients on their feet and at their work by daily diathermic treatments. The exception was a case which had been allowed to progress to too great a degree before reporting for treatment. This is of tremendous economic importance to the patient. Instead of having to pay for treatment and hospitalization with his salary often times discontinued, he remains on the job and has only the doctor to pay.

In infections of the kidneys, no value is attributed to diathermy.

In hypertrophy of the prostate, the method was found to be valueless.

In endo-cervicitis, the discharge became more abundant, the infection more active and the modality was very promptly discontinued.

Surgical diathermy is one of the fields of the greatest usefulness for this modality but is not within the scope of this survey.

#### Conclusions:

Diathermy is of value in lymphangitis.

Peri-urethritis is mildly benefited by diathermy.

It is of questionable value in penile plaques.

In neuralgia testis the symptoms may disappear or subside for days or weeks.

Little value can be attributed to diathermy in stricturous urethritis.

No benefit is to be expected in inguinal adenitis.

The results are not spectacular in folliculitis.

1. Greenberger and Greenberger, Abortive Treatment of Acute Gonorrheal Prostatic Abscess: The Urologic and Cutaneous Review, October, 1926.

Gratifying results are to be expected in gonorrheal arthritis.

No remarkable results were obtained in seminal vesiculitis and prostatitis.

Diathermy finds one of its greatest fields of usefulness in acute epididymitis.

No value is attributed to it in infectious diseases of the kidneys.

It is questionable if diathermy is of value in endo-cervicitis.

Its use in hypertrophy of the prostate is illogical and worthless.

### Resumé

From the foregoing review it is evident that medical diathermy is of extreme importance to the urologist in the treatment of gonorrheal arthritis and acute epididymitis, especially is this true in the latter. In the other conditions enumerated the results are rather bizarre and uncertain.

5 South Wabash Avenue.

## ROUTINE EXAMINATION OF THE HIP, SHOULDER, ELBOW AND WRIST

PHILIP LEWIN, M.D.

CHICAGO

In order to complete the series of examinations\* of the chief orthopedic regions the following is submitted:

### HIP

Anatomical location of disturbance as referred to by patient.

#### Inspection:

Front View  
Back View  
Side View  
Supine

Movements	Degree	Pain	Spasm
Flexion with knee flexed.....	.....	.....	.....
Flexion with knee extended.....	.....	.....	.....
Fabere sign (Patrick).....	.....	.....	.....
Abduction .....	.....	.....	.....
Adduction .....	.....	.....	.....
Rotation .....	.....	.....	.....
Circumduction .....	.....	.....	.....

Is there a fixed lordosis?

#### Prone

Extension  
Hyperextension  
Hyperflexion of knee heel to buttock (Ely)  
Rotation of hip with knee flexed

#### Palpation

Masses  
Crepitus—coarse—fine  
Areas of tenderness

#### Auscultation

Crepitus—coarse—fine

#### Neurological aspects

Anatomical aspects, nerves, muscles, etc.

#### Roentgenograms:

Stereoscopic of both hips for comparison  
A-P and L films of lumbo-sacro-iliac region

### SHOULDER

Anatomical location of disturbance as referred to by patient, i. e., acromion, deltoid region, biceps tendon, etc.

#### Inspection:

##### Front View

Symmetry  
Level of shoulders  
Prominences  
Depressions  
Atrophy

##### Back View

Symmetry  
Scapulae—level—prominent

#### Movements

	Degree	Pain	Spasm
Abduction to Rt. angle.....	.....	.....	.....
Abduction past Rt. angle.....	.....	.....	.....
Forward flexion .....	.....	.....	.....
Backward extension .....	.....	.....	.....
Circumduction .....	.....	.....	.....
Put hand on shoulder			
Put hand on opposite shoulder			
Put hand on head			
Put hand in back pocket			
Button back collar button			

#### Palpation

##### Masses

Crepitus—coarse—fine  
Areas of tenderness

#### Auscultation

Crepitus—coarse—fine

#### Neurological aspects

Anatomical aspects, nerves, muscles, etc.

#### Roentgenograms:

Stereoscopic of both shoulders for comparison. Occasionally necessary to repeat with arms abducted. A-P and L films of cervical vertebrae.

### ELBOW

Anatomical location of disturbance as referred to by patient.

#### Inspection:

Are normal bony landmarks visible?  
Swelling  
Discoloration

#### Palpation

Masses  
Crepitus  
Tender areas

#### Movements

Flexion  
Extension  
Pronation  
Supination

#### Roentgenograms

A-P and L films

### WRIST

Anatomical location of disturbance as referred to by patient.

#### Inspection

#### Palpation

#### Movements

Dorsiflexion  
Palmar flexion  
Pronation  
Supination  
Radial deviation  
Ulnar deviation  
Circumduction

#### Roentgenograms

A-P and L films

\*Routine examination of the back and cervical spine, Ill. Med. Journ., March, 1926.

Routine examination of the knee and foot, Ill. Med. Journ., January, 1927.



## LACTIC ACID MILK IN INFANT FEEDING\*

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CHICAGO

The object of this paper is not to offer a substitute for breast milk, but to present to you what has proven to be one of the most successful methods of artificial feeding when mother's milk cannot be secured. Among the best medical minds of today it is universally recognized that under ordinary conditions human milk is by far the best, the safest, the ideal infant food. But in spite of the obvious and well known advantages of breast milk, there has existed from time immemorial the necessity for artificial feeding of infants. The occasional abandonment of the child, deficient secretion of milk, death of the mother, the wear and tear of childbirth on the physical strength of the mother and various other causes, often make it imperative that the physician plan some other method of feeding.

How is he going to meet this problem? What plan is he going to use to insure the safety, growth, and development of the infant? A new day has dawned in medical thought and in the light of its rising sun the problem of infant nutrition looms large on the horizon. It does not require a far stretch of the imagination to see how certain nutritional disturbances of the infant may have a detrimental effect throughout the entire developmental period of childhood. But aside from these factors already mentioned, we still have a tremendously high infant death rate in Illinois, presenting a challenge which the medical profession cannot ignore. The physician, then, who assumes the management of the feeding of an infant, has a great responsibility, and on the degree of efficiency in which he discharges it will depend the future, the growth, development and perhaps the very existence of the child. It is the duty, then, of the physician to evolve some scientific basis for infant feeding—one that is rational, well balanced, and that meets the caloric requirements in each individual case.

It has long been known that the infant cannot digest whole cow's milk in as large quantities as breast milk. Different theories have been held to explain this fact. Some have regarded the difficulty as being due to biological and

chemical differences existing in the human and cow's milk, mainly in the fats and proteins. Others have assumed that the infant is not capable of digesting proteins and fats in the high concentrations in which they occur in cow's milk. These theories have not been supported by experimental evidence. But, nevertheless, the fact remains that whole, undiluted cow's milk is digested with difficulty by the average infant. Various modifications have been used to overcome this difficulty. The time honored custom, and one that is satisfactory in most cases, is to dilute the cow's milk with water, and make up the deficiency in calories by the addition of sugar in some form. Such modifications apparently meet the developmental and nutritional demands of most normal babies. But in many abnormal cases, especially the premature or athreptic baby, the amount of milk required is more than can be efficiently cared for by the gastro-intestinal tract. These cases require the use of a method whereby the quantity can be reduced to a minimum, but yet retain a high caloric value to meet the nutritional requirements.

The old theory of infant feeding totally ignored the mineral or inorganic salts of cow's milk. These salts, chiefly, the phosphates and calcium caseinate, act as a "buffer substance" which neutralizes to a great extent the hydrochloric acid of the gastric juice. Thus the gastric acidity is lowered and peptic digestion is at a minimum. Physiologists hold that a definite hydrogen-ion concentration is necessary for gastric digestion. Also that the HCL stimulates intestinal and gastric motility, opens the pylorus, inhibits bacterial growth, stimulates the flow of bile and intestinal secretions, and promotes the absorption of fats. Knowing these highly important functions of the hydrochloric acid of the gastric secretion, it is at once evident that any substance which neutralizes the acid secretion of the gastric juice will greatly interfere with digestion. This is precisely what the mineral salts of cow's milk does and in direct proportion to the amount of its neutralization will there be interference with gastric digestion. In the light of these foregoing facts, our problem is to offer a food which can be given to the baby undiluted, thereby retaining its high caloric value, and at the same time one that will not neutralize the acidity of the gastric juice. These properties, we claim, are possessed by whole undiluted lactic

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acid milk. This preparation, plus the Karo corn syrup (which addition will be explained later) has a caloric value of nearly 30 calories to the ounce, while mother's milk has a caloric value of only about 20 calories to the ounce. It has been shown also that lactic acid neutralizes the buffer substances in cow's milk, and allows the hydrochloric acid full sway in the process of digestion. The gastric contents of infants fed on lactic acid milk, removed at the height of digestion, has been found to maintain practically the same acidity as those fed on human milk. In contrast to the foregoing facts, Marriott and Davidson found that the gastric contents of normal infants fed on cow's milk showed a hydrogen-ion concentration on only  $1/20$  that of normal infant's, fed on breast milk. Thus the superiority of lactic acid milk over ordinary cow's milk in regard to acidity, Marriott and Davidson have also shown that in the gastric contents of infants with acute infections the H-ion concentration is only about  $1/10$  that of normal infants fed on the same food. This probably accounts, in part, for the low food tolerance of sick infants and is an added indication for an acid milk with a high H-ion concentration. It has also been shown that lactic acid milk has marked power of inhibiting bacterial growth and is usually free from pathogenic bacteria. Marriott has inoculated such milk with pure cultures of B-coli and B. Dysentriae, and found no growth at the end of 24 hours. Assuming then that so many cases of summer diarrhea are due to bacterial infection, it is reasonable to presume that lactic acid milk, by virtue of its being free from pathogenic bacteria should, if routinely used during the summer months, prevent many cases of diarrhea. This has been found to be true by those who have used it extensively.

*Method of Preparation.*—Lactic acid milk can be prepared by culturing with lactic acid bacilli, or by adding to cool cow's milk lactic acid (75 to 80%) U. S. P. The latter method is the only one that can be used in the home. The technique is simple and any mother with ordinary intelligence can carry it out with ease. One pint of whole cow's milk is boiled for five minutes, the scum removed, and allowed to cool. When cool, add to the milk one dram of lactic acid (75 to 80%) U. S. P. drop by drop. The mother should be warned to allow the milk to cool com-

pletely before adding the acid, and to add the acid very slowly. Otherwise large curds will be the result instead of the fine flocculent curd which is desirable. As is always necessary when feeding cow's milk the deficiency in carbohydrates must be made up by adding that ingredient in some form. Marriott prefers the commercial Karo corn syrup (Blue label). One ounce of Karo, by volume (2 tablespoonfuls), equals one ounce of sugar, and has a caloric value of 120 calories per ounce. Containing, as it does, a high proportion of difficult fermentable dextrin, it is the most difficult of the sugars to ferment, and therefore less likely to cause diarrhea. Two tablespoonfuls of Karo are added to the pint of milk, and well stirred. The whole is then divided into feedings and set aside for use.

*Results Obtained.*—Regardless of all theoretical considerations the ultimate value of any method must be gauged by clinical results. Marriott is the father of this method of infant feeding and with it has achieved brilliant success. He first used lactic acid milk only in feeding athreptic babies, but his results were so good that he later used it routinely in 90% of the cases in the St. Louis Children's Hospital. These included the usual run of hospital cases as athreptic, difficult feeders, premature infants, otitis media, pyelitis, pneumonia and other acute infections.

With the entire group the average daily gain in weight was  $9/10$  ounces. Perhaps his best result has been with the athreptic infants. His mortality, which was 78% in 1919, has fallen to 26% since the institution of routine feeding with lactic acid milk. His most recent results are even better according to some unverified reports. Scores of other men and institutions over the country are using this method of feeding and report uniformly good results. My own experience with it has necessarily been limited, but it has proven so satisfactory that I used it routinely with difficult feeders. Lactic acid milk is not offered to you as a panacea for all the ills of childhood, but it appeals to me as being a most logical and sensible formula for infant feeding—one that is scientifically based on known chemical and physiologic facts. I believe if you will use it you will not find cause to be disappointed with your results.

904 West Adams Street.



## THE VIVISECTION OF CAPITAL CRIMINALS FOR THE ADVANCEMENT OF KNOWLEDGE IN MEDICINE

EDWARD PODOLSKY

BROOKLYN, N. Y.

The gradual realization of a series of certain facts will eventually lead to the establishment of vivisectioning criminals convicted of capital crimes as a means of advancing medical knowledge. No doubt, such an institution will be a permanent one in the most enlightened age. The past experiences of the human race which led to the formation of a philosophy that demanded the sacrifice of the detrimental few that the useful many may live more comfortably and in less danger, and the ever-increasing desire to discard sentiment when it interferes with the working of economic measures, serve as fundamental supports to such a conviction. Human psychology has been and continually is adjusting itself to accept seemingly novel and radical conditions as necessary for the preservation and continued welfare of the social organism.

The adoption of vivisection of criminals as an economic measure would by no means be new, for it is known to have been practiced at various stages in the history of mankind. It did not survive as a permanent institution, because of the rather crude methods by which it was carried out, and because of the too great sentiment directed against it. While the so-called moralists asserted that the precepts of morality were being violated, the experimentalists maintained rightfully that it was by no means cruel to torture the guilty few to search after remedies for the whole innocent race of mankind.

The desire for medical truth had manifested itself very early in human experience. The practical utilization of murderers was commenced in early Egypt. Somewhat later, Ptolemy Philadelphus attained notice by placing at the disposal of the scientists of Alexandria criminals convicted for the worst crimes. The rise of Alexandria to a medical center in ancient times was in great measure due to this institution.

Several centuries later, Herophilus, the Chalcedonian and pupil of Praxagoras of Cos, and later Diocles of Carytus, the first of the Hippocratic school to distinguish himself as an anatomist, began to dissect criminals. These were gotten

from the prisons by royal permission. With Erasistratus, Herophilus carried on his anatomical researches on the bodies of living criminals on a large scale, it being reputed that Herophilus alone dissected over six hundred criminals in these studies. The ancient apologists for the human vivisections of Herophilus and Erasistratus used to say that these anatomists were thus "enabled to behold, during life, those parts which nature had concealed, and to contemplate their situation, color, figure, size, order, hardness or softness, roughness or smoothness, etc." They added "that it is not possible, when a person has any illness to know what is the cause of it, unless one is exactly acquainted with the situation of all the viscera; nor can anyone heal any part without understanding its nature; that when the intestines protrude through a wound, a person who does not know what is their color when in a healthy state cannot distinguish the sound from the diseased parts, nor therefore apply proper remedies; while, on the contrary, he who is acquainted with the natural state of the diseased parts will undertake the cure with confidence and certainty; and that, in short, is not to be called an act of cruelty, as some persons suppose it to be, to seek for the remedies of an immense number of *innocent* persons in the sufferings of a few *criminals*." Herophilus (Tertullian, *De Medic.*, i, p. 6).

The next important stage in the history of criminal vivisection was enacted during the Middle Ages. In Montpellier and in other French cities, at this time, physicians vivisected criminals in their search for medical truth. In the Italian cities of Florence, Venice, and Pisa, this practice was sanctioned and practiced. In the Criminal Archives of Florence, Professor Andreozzi has discovered the fact that during the reign of Cosimo de Medici, condemned criminals were from time to time sent to the scientists of Pisa, there to be anatomized. Among the cases presented in his work, *Leggi Penali degli antichi Cinesi*, some are worthy of notice:

1. December 14, 1547. Guillo Mancini Sanese was condemned for robbery and other offenses. Sent to Pisa to be anatomized. *Ducatur Pisis pro faciendo de eo notomia.*

2. In the record of prisoners sent away, dated September 1, 1551, occurs this entry: "Letter to the Commissioner of Castrocaro that Maddalena who is imprisoned for killing her son, should be sent here, if she

is likely to recover, as it pleases S. E. that she should be reserved for anatomy. Of this, nothing is to be said, but she is to be kept in hopes. If she is not likely to recover, the executioner is to be sent for to decapitate her. \* \* \* Went to Pisa, to be made an anatomy.

3. December 12, 1552. A man named Zuccheria, accused of piracy, was reserved from hanging, with his comrade, and sent to Pisa, *per la notomia*.

4. December 22, 1552. A certain Ulivo Di Paolo was condemned by the Council of Eight, to be hanged, for poisoning his wife. Sentence changed \* \* \* to be sent for anatomy. Was sent to Pisa, January 13.

5. November 14, 1553. Marguerita, wife of Biajio D'Antinou, condemned to be beheaded for infanticide. \* \* \* December 20, when she was released from the fetters and consigned to a familiar, who took her to Pisa to the Commissario, who gave her, as usual, to the anatomists, to make anatomy of her; this was done accordingly. (*Che la consegnì, seconda il solito, al notomista, per farne notomia, come fu fatto.*)

Several other cases, from 1554 to 1570, are recorded, which inform us that two thieves, Paolo Di Giovanni and Vestrini D'Agnolo, were sent together by the Council of Eight to be anatomized, the Duke having written to say that they wanted, in Pisa, a subject for anatomy. After the date 1570 no more cases occur in the Archives. In all, thirteen criminals were delivered over for specific scientific research. During part of this period the great Vesalius and his pupil Fallopius, were carrying on their researches in anatomy and lecturing on this science.

After this period, the vivisection of criminals diminished to a very small scale. Now and then a vivisection was performed for some definite purpose. Such was the case when Henry II of France was mortally wounded by a splinter from a spear which had entered below his vizor and pierced his eye, and the surgeons, for the purpose of discovering the probable injury done to the king, cut off the heads of four criminals and thrust splinters into their eyes at the same inclination as the fatal one that had entered the eye of the king. Although this procedure was not altogether an economic measure, it was a little above the order of the Persian monarch who caused the heads of a number of criminals to be struck off so that his chief surgeon might closely observe the convulsions of the muscles of the neck at the instant of decapitation. A much more redeeming case was Dr. Jenner's venture into vivisection. When Dr. Jenner discovered vaccination as a safeguard against smallpox, King George III of England ordered that Dr. Jenner

test his vaccination on six criminals who were awaiting the death penalty in British prisons.

Several generations ago, in France, a celebrated savant, author of a work on the effects of imagination, desired to prove his theories by actual practice. For the purpose of carrying out this proposition, he requested the Minister of Justice in Paris to allow him to try an experiment on a criminal condemned to death. The Minister consented, and turned over to the physician a murderer of distinguished rank. The scientist informed this unfortunate that several persons being interested in his family had prevailed upon the judge not to require of him the usual means of execution. His sentence, he was told, was therefore changed. "But," continued the physician, "you shall be bled to death within the precincts of your prison; your dissolution will be gradual, and free from pain." The criminal submitted to his fate, thinking that his family would be less disgraced through this procedure, and considered it a special favor to be put to death in this manner. He was accordingly made ready for the experiment. By conducting affairs cleverly he was readily made to believe that his veins had been opened and that his blood was flowing freely, whereas, he had been but gently pricked on the skin, and small fountains of water were placed about him, to simulate the flow of blood. Within a few hours the man was dead, and the doctor was satisfied with such a practical confirmation of his theories. Thus a criminal condemned to death, consented to die in a manner that was both useful to society and more pleasing to himself than had it been at the hands of the executioner. Nothing would have been gained with the latter method, but the physician's experiment helped more than anything else would have helped to demonstrate the practicability of suggestive therapy, which might as readily cure bodily ills as send a criminal from this world in a humane way.

Within more modern times the question of vivisectioning capital criminals in the interests of society and science has come up for consideration from time to time in the various countries of Europe. Even in the United States there has been at various intervals earnest and serious discussion of this question. Among the most notable was that at a meeting of the Tri-State Medical Association, held at Peoria, Ill., October



3, 1893. At this time Dr. John S. Pyle read a paper entitled "A Plea for the Appropriation of Criminals, Condemned to Capital Punishment, to the Experimental Physiologists." Dr. Pyle suggested: "A building should be especially erected and every form of mechanical appliance provided for the prosecution of psychical inquiry and studies of the general nervous system. A body of expert physiologists . . . should be appointed to carry out the commands of the state. Every person interested in scientific studies or physiologic and psychical inquiry should be admitted to executions."

Several years later Mr. Rowlen introduced into the Senate of Ohio a bill proposing the vivisection of capital criminals. (*House Bill No. 135*, 71st General Assembly, Regular Session). It consisted of three long sections of which the following quotations will serve to show the substance:

That all persons sentenced to death by any court having jurisdiction in the State of Ohio, shall be held as subjects for experimental research; that such experiments should be conducted in the interest of science and society.

That the executioner shall be an expert physiologist, duly appointed and authorized by the State, and that such appointments to execute and conduct such experiments shall be vested in the governor and shall consist of one executioner and five assistant physiologists, with a like number of deputies, who shall hold their office for the term of good behavior, except upon proof of incompetency.

That no one shall be present at the experiment except the warden in charge of the prisoner, the executioner, assistants and deputies, and those who have duly qualified themselves to comprehend the experimental work.

The measures proposed by Dr. Pyle and Mr. Rowlen never went through, either because sentiment was too strong against them, or that they were not sufficiently refined to convince that society would be better served. If it is necessary to deprive a criminal culpable of a capital crime of his life, it must be done in a manner whereby the interests of society and science will be furthered. If, in such cases sentiment is directed against such a procedure, it is unjustifiable and entirely uncalled for, because it is opposing and interfering with the workings of an economic measure. The thought of the future that will sanction vivisection of criminals will do so with certain provisions. It is perhaps not too difficult to guess what they will be.

The following provisions are respectfully sug-

gested: No person whosoever shall have his body experimented upon for the purpose of discovering a new truth or principle in medicine, unless such a person has committed a crime deemed punishable by execution. All capital criminals shall be consigned to special research stations, wherein they may be put under study and experimentation. No experiment on such a criminal shall be unnecessarily cruel, and all methods of modern science shall be employed to spare the criminal as much pain as possible. No condemned person shall be experimented upon with the sole view of depriving him of his life, but only until the point in question has been ascertained or discovered. If a criminal successfully survives the experimentation, and as a result thereof a valuable discovery has been made, that prisoner shall be considered for exemption from further experimentation, and assigned to some useful occupation for the remainder of life.

A careful study and consideration of the provisions suggested above cannot fail but convince that such an institution will prove far more useful and economical than the one we have at present. A man who is culpable of a capital crime has forfeited his life to Society against whom he has transgressed. Society must punish the criminal for her own interests. This is a moral procedure inasmuch as the interests of many are pitted against the interests of one. A punishment that consisted of depriving a criminal of his life simply as punishment for a grave crime is uneconomical and vengeful, despite what one may say to the contrary. An execution, next to war, is the most disgraceful procedure in a civilized community, for it is still an exhibition of primitive emotions and disregard of the ultimate good.

Of course, the law must run its course (an eye for an eye, a tooth for a tooth—), but a course in which Society realizes a minimum of benefit where it may realize a maximum of benefit, is, to say the least, unwise. A Society which utilizes a prisoner's life to better purposes than merely pure vengeance, is more worthy of the name civilized. The benefits derived are infinitely more when used to the better purpose, namely, investigation which will, in the end, benefit a great number of people. A life that has been made useful before it is extinguished, if it is necessary to extinguish it, serves Society

far more than a life which is extinguished without a thought.

What more moral and logical thing can be asked of a prisoner other than to dedicate a life which he has forfeited to mankind against whom he has sinned. It is not necessary that he die, but only that his life be put to the greatest good. Medical history is filled with the stories of martyrs from the ranks of the profession, and the life of any one was more valuable than all the criminals who have ever been executed. Not only more economical, but justified morally in every way would have been the utilization of criminals for research by which the entire race of mankind would benefit. It is only because of a sentiment that amounts to criminality progress which might have been possible has never been realized.

The problems of human health and welfare that beset us today are no fewer than previously. The cure for tuberculosis, for cancer, for pneumonia, *must* come. It will come, but its hastening can be effected if suitable means for extensive study were employed. There have been, no doubt, many criminals condemned to death who have suffered from these diseases whom we might have used towards better ends than death. There are many other problems that might find easy solution with the aid of experimental study on the bodies of healthy criminals condemned to death. There is nothing cruel about such experiments, they need not be cruel, they are not necessarily cruel. They are far more humane than outright execution. Moreover, they are morally and economically justified.

The establishment of the vivisection of capital criminals as an institution must eagerly be looked towards, for with such an advent, a most glorious era in Medicine will be ushered in, and with it an almost certain solution of the many problems of human health and happiness.

511 Jerome St.

#### BOX FOR TWO

She was a careless girl to put the subscriber on the wrong number. Being in a hurry, the subscriber promptly asked for a box for two.

"But we don't have boxes for two," said a startled voice at the other end of the line.

"Why, isn't this the theatre?" he inquired.

"No," was the reply. "This is ——'s, the undertaker."—*Medical Pickwick*.

#### EARLY BIRD GETS THE WORM—A MORAL

Said the little red rooster, "Gosh all hemlock! Things are tough.

Seems that worms are getting scarcer, and I cannot find enough.

What's become of all those fat ones is a mystery to me; There were thousands through that rainy spell, but now where can they be?"

The old black hen who heard him didn't grumble or complain;

She had gone through lots of dry spells, she had lived through floods of rain.

So she flew up on the grindstone and gave her claws a whet,

As she said: "I've never seen the time when there wasn't worms to get."

She picked a new and undug spot; the earth was hard and firm.

The little rooster jeered: "New ground! That's no place for a worm!"

The old black hen just spread her feet, she dug both fast and free;

"I must go to the worms," she said, "the worms won't come to me."

The rooster vainly spent the day, through habit, by the ways

Where fat, round worms had passed in squads back in the rainy days.

When nightfall found him supperless, he growled in accents rough:

"I'm hungry as a fowl can be. Conditions sure are tough."

He turned then to the old black hen and said: "It's worse for you.

For you're not only hungry, but you must be tired, too. I rested while I watched for worms, so I feel fairly perk;

But how are you? Without worms, too! After all that work?"

The old black hen hopped to her perch and dropped her eyes in sleep,

And murmured in a drowsy tone: "Young man, hear this and weep:

I'm full of worms and happy, for I've dined both long and well,

The worms are there, as always, but I had to dig like hell."

In our barnyard there are printers who complain about conditions;

For service and for better work are afraid to make additions.

They cut the price to get the work from big and little firms,

Meanwhile the old black hens are out and get the cost *plus worms*.

—Kansas City Graphic Arts Organization.

#### TAKING NO CHANCES

Sonny—"Must I sleep in the dark?"

Mother—"Yes."

Sonny—"Oh, then, let me say my prayers over again—more carefully."—*Detroit News*.



## MILK INJECTIONS FOR PELVIC INFECTIONS IN WOMEN

Gellhorn (*New Orleans Medical and Surgical Journal*, March, 1926) alludes to the unsatisfactory reports of specific therapy in the treatment of ills to which flesh is subject, and calls attention to the decidedly beneficial effects of non-specific protein therapy as applied to many infections. This form of treatment, at first looked upon with askance by the general profession and derided by the laboratory worker, has proven so successful clinically that it is now considered by the medical and surgical leaders of thought and under appropriate circumstances employed by them with often astonishing results.

By protein therapy the cells of the body are stimulated to resist and to overcome toxic and infective agents. Moreover, it is held that abnormal cells, i. e., those not damaged beyond repair, react to stimulation more vigorously than do those which are normal. The effect of the protein injection is then to increase the power of the cell to elaborate those ferments and antibodies which neutralize bacterial toxins and hasten the absorption of inflammatory exudates by increasing the permeability of the vessel walls. The first effect of the protein injection manifests itself, within a few hours, in the form of a general reaction. There is usually a chill, followed by a rise in temperature which may reach as high as 105° F. In some cases there may be only drowsiness, increased perspiration, or slight nausea. After intravenous injections the general reaction is always more intense than after either intramuscular or subcutaneous injections. The fever subsides in from twelve to twenty-four hours and gives way to a feeling of intensified well-being which is noticed by the patients in practically every instance and grows even more pronounced during the course of treatment. Appetite and sleep improve, and the depression of general malaise disappears. The rise in temperature is regularly accompanied by an increase of leucocytes: 20,000 to 25,000 are by no means exceptional figures, at least after the first one or two injections. This hyperleucocytosis fades away within two or three days, to reappear, in milder forms, after each subsequent injection.

In addition to this obvious response of the whole organism, there is also a "focal" reaction at the site of the inflammation. In superficial infections we plainly see a transitory increase in swelling and redness, and by analogy we may assume that also foci hidden in the depth of the body become more swollen and reddened.

The number of proteins which have been used for clinical and experimental purposes is large. In actual practice only a few substances need to be considered; of these milk has become most popular.

Ordinary household milk is rendered fat-free by centrifugation and boiled in test tubes in a water-bath for ten minutes in such a manner that the test tubes do not touch the bottom of the vessel.

The milk is injected into the upper portions of the buttocks under the usual antiseptic precautions. The

initial dose of 5 cc., the standard dose 10 cc., which is reached with the second or third injection and then maintained throughout the course of treatment. The interval between injections is from three to five days, in indolent patients occasionally only two days. One is guided largely by the clinical aspect of the case and the leucocyte count. When the latter has receded sufficiently from its peak, new stimulation is in order. The first injection is given no matter how high the original count was.

The general reaction sets in about six hours after injection. It used to be rather stormy in many instances, but since the employment of fat-free milk it has greatly abated, and chills and elevation of temperature are, as a rule, but slight, though hardly ever totally absent.

Of the various infectious diseases of the female genitals, gonorrhea of the tubes is the one which responds most readily to protein injections. This is all the more gratifying because the treatment of ascending gonorrhea, on the whole, is unsatisfactory. That in very exceptional cases, prolonged rest in bed, combined with conservative antiphlogistic measures, may bring about a cure cannot well be doubted; but how infinitesimal this chance is may be inferred from the immense number of operations which are performed daily for pyosalpinx or its sequelæ. Surgical treatment, again, offers relief only under certain conditions.

Gellhorn has treated all patients with tubal involvement by milk injections, as the result of which operations for pyosalpinx have become as infrequent in his service as they used to be numerous. He does not claim that every case can be cured.

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## IRRADIATION OF VESICAL NEOPLASMS BY REMOVABLE PLATINUM RADON SEEDS: DESCRIPTION OF NEW INSTRUMENT DESIGNED TO FACILITATE THEIR EMPLOYMENT

JOSEPH MUIR

An improved method of treating neoplasms of the bladder by means of Removable Platinum Radon Seeds is described in this article.

Using the Removable Platinum Radon Seed it is possible to obtain scientific accuracy of the dosage delivered. Radiation is directed not only to the growth itself, but to the tissue surrounding it, in order to catch the mitotic cell. The placement of the radioactive units is made so that the "zones of potential tissue change" from each source do not overlay. The "zone of potential tissue change," or the amount of tissue that one seed can take care of when implanted alone and also when two or three centers are used so that intervening cells are subjected to cross firing, is described. The theoretical expose has been proved by clinical results.

Using the Removable Platinum Radon Seed not only are we able to deliver accurate dosage, but because of the platinum screenage all caustic rays are eliminated and necrosis and sloughing with intense shock to the

patient obviated. The fact that Platinum Radon Seeds are easily removed through the cystoscope after the required amount of radiation has been delivered makes this the method of choice since no foreign body is left in tissue after treatment.

The technic of application is fully described and illustrated. A point of great importance in using the Removable Platinum Radon Seeds is that after the first seed has been implanted through the cystoscope, its thread protruding from the portal of entry of the seed in tissue serves as a landmark and guide for the placement of successive seeds, so that the accuracy of placement of seeds through the systoscope is greatly increased. Also, should a seed be incorrectly implanted, it may be removed and reimplanted.

In view of the highly simplified technic as described, the treatment of vesical neoplasms by implantation of Removable Platinum Radon Seeds can be accomplished with as much scientific accuracy as any other urologic procedure.—*Jour. Urology, January, 1927, XVII, p. 53.*

#### LET THE SPECIALIST DO LESS, THE FAMILY PHYSICIAN MORE—A REMEDY FOR FEE SPLITTING\*

Jno. O. McReynolds, in the *Texas State Journal of Medicine*, says:

It may seem strange that I should say, in this era of marvelous scientific development, that the medical profession is passing through the most crucial crisis of its history.

The danger lies not in an unresponsive spirit of investigation, for there has never been a time when so much talent and patient toil was so freely furnished in this field of study. The danger lies not in a want of sympathy and support on the part of the people and the concentrated wealth of the world, because never before has the preservation of human life held so strong a hold on the heart of civilization or commanded with such controlling force the accumulated gold of the earth. The danger lies not in any weakness in the essential elements of the science or art of healing, because never before have the fruits of this tree been better or more abundant, in the blessings they have brought. The danger lies in the corroding spirit of commercialism that is creeping into the consciences of men corrupting the consecrated character of professional honor, and dissolving the bonds of fraternal feeling—so essential to the full fruition of our promised destiny.

In the great warfare to preserve inviolate the lofty and historic ideals of our profession, there is a clear and grave responsibility which the specialist must meet and bear. He stands in the attitude of one who has passed through the regular college curriculum for the doctor's degree, and has served the allotted time in

general hospitals or general practice, and then, in addition, has devoted a period of faithful study to some particular field of medicine or surgery. He has been generously accorded by the general profession and by the public, all of the consideration to which he is entitled; and in return, there should be demanded of him the highest exemplification of the finished physician and faithful friend.

Specialism, in these modern times, has encroached alarmingly upon that broad domain of the healing art, for centuries the acknowledged province of the family physician. Indeed, the practice of medicine has been divided and subdivided into so many parts, that the family physician can find but few conditions that are unprovided for by some of the various specialties of the profession.

Some days ago, I was consulted by a prominent citizen of New York, who told me that he had on his regular payroll no less than thirty specialists for himself, his wife and his children, and that his family physician, one of the most brilliant men of America, was consulted mainly for the purpose of ascertaining what particular specialist should be engaged for a given malady. And thus it transpires that the general practitioner, especially in the cities, is being converted into a mere machine for referring patients to other physicians. And here is the point where specialism touches the danger line in relation to the general profession and to the general public. If the family physician is thus deprived of his right to practice, and is simply consulted as to what specialist should be employed, then he becomes, in a measure, merely an agent for securing medical or surgical service.

And then, if this function, rather than the practice of medicine, should become his chief occupation, it is easy to see how the spirit of commercialism might take root and grow, as actual experience throughout the world will abundantly prove. And we find some very capable physicians, men who have attained high official positions in medical societies, asking themselves these questions: "What is wrong with the division of fees?" "What is wrong in paying a definite commission for patients referred?" "If a merchant can pay a commission on business secured, why cannot a doctor do likewise?" "If the patient must be referred to someone, why is it wrong to pay the family physician for his trouble and, in addition, reward him for his zeal?" "And if one specialist will offer a commission of 20 per cent, whose concern is it if another specialist should offer a commission of 40 per cent?" If automobiles and other expenses have trebled the cost of living for the general practitioner, and his own charges have not been advanced in forty years, and the number of his patients has been reduced by the inroads of specialism, why is it wrong to divide fees?"

Be it far from me to throw a single impediment in the pathway of that splendid hero of our profession, the family physician. The history of civilization has recorded the name of no one more worthy of the world's highest honors and truest affection. All the blessings of earth and the benedictions of Heaven have been surely and bravely earned by this faithful friend and

\*Chairman's address, delivered before the Section on Ophthalmology Otolaryngology, Rhinology, and Laryngology State Medical Association of Texas, Fort Worth, May 8, 1923.



servant of mankind. Our duty to him is to consider well the difficulties that throng his pathway and render unto him without reserve, that full measure of justice and gratitude which he has won. And, remembering the lofty sentiments that have inspired his consecrated service, let us watch that we insult not his manly spirit by a suggestion unworthy of his life and character.

What, then, should be the attitude of the specialist to the family physician? Surely, it should not be the attitude of one who would propose to buy with money the influence of a high-minded man of science, entrusted with the sacred duty of guarding the life and physical welfare of his patient. Surely, it should not be the attitude of one who would propose that an afflicted child or a disease-stricken woman, should be practically auctioned off to that specialist who would offer the largest commission, or become a bargain between physicians, without the knowledge or consent of the patient who is vitally interested. Surely, this commercialism of human infirmities, so frequently practiced in secret, and in some quarters openly defended, cannot in the very nature of things secure the highest efficiency and the most faithful service. Such a system of clandestine agreements among physicians must inevitably debase the profession and make pecuniary profit, rather than honest merit, the basis of personal preferment.

But there is a way, and an honorable way, by which every physician can receive his just reward, and that is by a proper appreciation of the real function of the specialist. Reduced to its final analysis, the best and most useful duty of the specialist is that of consultant—a helper, a coadjutor of the family physician. The specialist should not be called upon to give those elements of treatment which could be reasonably relegated to the family physician. His labors should be confined to those features of professional service requiring that special discernment or dexterity which he is expected to possess. It is the duty of the specialist to lend his aid in unravelling the tangled threads of diagnosis, to contribute his skill in the surgical requirements of the case, and, as soon as possible, to return the patient to his home, under the care of his family physician. Thus an undue expense to the patient is avoided, and thus the family physician is reinstated in the case, so that he can receive for his services his own proper reward, and thus the specialist is relieved of unnecessary details and allowed more opportunity to extend his real usefulness over a wider and more fruitful field of labor. In fact, the essence of the remedy consists in utilizing to the fullest extent the personal service of the family physician, and in minimizing, as far as possible, the individual attention of the specialist. The remedy consists in returning to the family physician a large part of the medical treatment which has unnecessarily been discharged by the specialist. Let each receive his own remuneration for his own labor, but let the specialist do less, and the family physician more.

The second element of danger that is undermining the structure of our profession, is the too prevalent

vice of unkind criticism. As the general profession and the public at large have accorded to the specialist in the various departments of medicine and surgery the credit of having attained some special familiarity with the subjects of their constant attention, it follows that this confidence involves an added obligation, not only to be just, but generous. And, as the specialist is thus constantly passing upon the work of the general practitioner, he has the fullest opportunity to commend or condemn. His essential duty is to help the afflicted, and I do not recall a case in thirty years' experience, in which it was necessary to encourage distrust of the family physician in order to render assistance to an unfortunate sufferer. Our field of activity is in the present and future, not in the past. Our great opportunity is in making hearts glad for whatever good we may do, rather than in filling them with regrets about things that cannot be undone.

#### WHY CHRONIC GONORRHEA IN THE MALE?

PELOUSE (Atlantic Medical Journal, April, 1926) defines chronic gonorrhea as that in which the gonococcus persists for longer than six months. He holds that with careful treatment and proper co-operation on the part of the patient chronic gonorrhea in the male can be almost obliterated as a clinical entity.

By making the most generous allowances for the influences of the patient's own acts, there will still be found a composite picture that cries aloud for correction, for many of the forms of treatment in general use are not so potent for cure as they are for the production of conditions that lead to chronicity. Among those most frequently brought out are the following:

The passage of instruments or solid bodies into the acutely inflamed urethra.

The use of injections and irrigations under very high pressure. The use of substances in the urethra that causes great burning and a profound subsequent inflammatory reaction.

The administration of large doses of vaccines in early stages of the disease. The entrusting of all of the treatment to the patient without adequate instructions. The use of intravesical irrigations when only the anterior urethra was infected.

The use of silver nitrate instillations into the posterior urethra during the early stages of its acute inflammation.

The use of astringent injections whereby the disease is rendered latent from the start.

Pronouncing the patient safe to indulge in coitus without doing more than looking at his urine to determine cure.

The use of prostatic massage so early that it could only do damage to the gland. Such strenuous prostatic massage that it causes the patient great pain.

Prostatic massage under such conditions and of such a type as to favor extension to the seminal vesicles and epididymi.

Local treatments during an acute posterior urethritis.

Lack of the knowledge that the prostate becomes

infected in every case of posterior urethritis and does not recover spontaneously.

The use of too many forms of treatment rather than the adequate use of one. Failure properly to acquaint the patient with the dangers of the disease and the necessity for a strict mode of life.

As a means of preventing chronic gonorrhea Pelouse lays down the following points:

Don't do anything to devitalize this very delicate mucosa upon which you must rely for cure.

Don't injure it by the passage of solid bodies into it until you have reason to feel the gonococcus is gone.

Don't use chemicals that cause a greater reaction than the membrane can stand.

Don't trust too much treatment to the patient, for he has usually less skill than the most unskillful physicians.

Don't inject substances into the posterior urethra when only the anterior is infected.

Don't use a hydrostatic (or any other) pressure of more than three feet of water. The inflamed urethra cannot stand it without injury.

Don't give large doses of gonococcus vaccine in acute or any other gonococcal infection of the urogenital tract.

Don't carry out local treatments to the anterior urethra when the posterior urethra is acutely inflamed, for their possibilities for harm far outweigh the slight good they may do.

Don't think the bladder cannot be filled with three feet of water pressure, for it is generally easier to get the cut-off muscle to relax with slight than with great pressure. The latter insults it and throws it into spasm.

Don't forget that posterior urethritis means prostatitis, and that too early prostatic massage means permanent damage to the gland and probably abscess formation.

Don't forget that unskillful prostatic massage, heavy lifting, and sexual excitement or indulgence with a full bladder are the most common determining factors in epididymal involvement.

Don't fail to gain your patient's co-operation. Lack of it will render practically useless your most careful treatment.

Don't think a clear urine means cure, for the gonococcus loves to colonize and lie dormant. It can be stirred to activity by any type of roughness, and it had better be stirred than have some one else infected.

Don't forget that the utmost gentleness and judgment in the treatment of acute gonorrhea will obliterate chronic gonorrhea, and that your best ally is an untraumatized mucous membrane with good drainage.

#### TREATMENT OF VENEREAL DISEASE FROM THE STANDPOINT OF PREVENTION

Hennessey (*New Orleans Med. and Surg. Journal*) fully believes that the cloud of secrecy and the cloak of false modesty and prudery, beneath which venereal disease has been steadily ravaging the health of the nation, are fast disappearing in the light of the truth. Ignorance is largely the cause of the prevalence of

venereal disease. Fifty-five per cent of young America is infected with a venereal disease before the age of twenty-three. Two hundred and fifty thousand die each year from the effects of venereal diseases, as against one hundred and sixty thousand from tuberculosis. Approximately one-fifth of all inmates of insane institutions are there because of syphilis; 30 per cent of all the blind in our institutions have been blinded by gonorrhea; eighty per cent of all the operations upon the female generative organs are due to venereal diseases. Loose training and the economic necessity of postponing marriage are to be considered as factors in increasing promiscuous sex relations, with its inevitable result. Education has proved to be the greatest factor in modifying the venereal disease rate. Its full benefits will come only when every educational agency is enlisted in the cause and the facts carried to every American home. The greatest safeguard against infection is chastity. Prophylaxis should be relegated to a position subordinate to educational training.

It seems strange, indeed that any physician of experience should not recognize that the habit of adverse criticism is a tree of unfortunate fruitage. The act of criticism is in itself an assumption of superiority, and invites at once the closest scrutiny of one's own deeds. And who among us has always obtained the results he had hoped to achieve? Who among us has not labored with diligence and with care, only to gather the melancholy fruits of failure? Is it not true that sometimes our best and most faithful service brings back to us the sting of ingratitude and the most unrelenting calumny?

Go search the records of our courts and you will find it to be the rule in all suits for malpractice, that the arrow of criticism has been aimed at some member of our profession whose skill and achievements have made him a shining mark among his fellows. You will find the arrow poisoned with the venom of envy that has been secreted and excreted by some pitiable perjurer who calls himself a doctor, and who has committed a thousand errors, many times blacker than the one with which he would seek to dim the lustre of his confrere.

#### THE PATHOLOGICAL VOMITING OF PREGNANCY

Kelly, in the *Virginia Medical Monthly* for March, 1926, says it may be of interest to some to state briefly the technique which he follows in this work. To make a solution for intravenous use the following method is recommended: Distilled, filtered, sterile water, the desired quantity; Lilly's 50 per-cent, 20-cc. ampoules of sterile glucose, the desired number, are thoroughly cleansed with alcohol, broken, and emptied into the water, prepared as above; then the desired amount of insulin is added (one unit for every two grammes of glucose). This mixture is then filtered through several thicknesses of sterile gauze in order to be sure there are no fine particles of glass in it, and, the temperature of the solution being correct, it is now ready for injection. The time consumed for one such



injection varies slightly with the amount of fluid used, but is usually one hour. The vein is never cut down upon; the needle, which should be rather small, is put through the skin into the vein in the usual way, the arm having been previously cleansed with iodine and alcohol.

By making a solution of the glucose-insulin mixture we have, of course, a solution in which there is a definite proportion of glucose to insulin in every drop of the solution as it flows into the vein. In other words, there is a better balance than when the glucose is put in the vein and the insulin given hypodermically. There is still another advantage: it is unnecessary to consume three or four hours to administer the glucose, as Thalheimer advises, though it should be given reasonably slowly. Also, the patient is not so exhausted by this method of procedure, and does not dread a repetition of the treatment as much as when it is so long drawn out and when repeated hypodermics of insulin are used. Furthermore, it seems that the results are even better when the insulin is put in the glucose solution.

His present method of treatment is to put the patient in a hospital, immediately give her 80 to 100 grammes of glucose by vein, and no food or water, by mouth, for twelve to twenty-four hours; at the end of this period allow dry food; no water for one hour before or for one and one-half hours after taking food, but abundant fluids at other times. If the results of this treatment are satisfactory, thus far, the patient is then given a very liberal carbohydrate diet, including candy if she so desires. The urine frequently shows sugar at the next voiding following the glucose injection, but it very soon disappears, and along with this the acetone and diacetic acid decrease or disappear. In fact, the results he gets in some of these cases are little short of miraculous. It may be necessary to use the glucose a second time, or even a third, in some cases, though one treatment is often sufficient to bring about a cure.

There are several important points in the treatment: First, give large doses; 80 to 100 grammes of glucose, as described above, is the amount he usually gives. He failed in one case, due, he believes, to small doses, though he carried her along for one month. There were, however, several obstacles in the way, over which, unfortunately, he had no control. He gave this patient glucose and insulin six times; she improved after each injection, especially after the first, but he was never able with small doses to free her urine of acetone or diacetic acid. He really believes large doses, with the use of luminal sodium, which was not given, would have done the work for her.

The three cases which he reports were very severe ones, one of which had been unable to retain any food and very little water for three weeks; she vomited practically not at all after the first injection.

He calls attention to one other remedy which he has found more helpful than anything else with the ordinary cases of vomiting and nausea. It is also very helpful with the severe ones. This is luminal sodium, given in doses of one to one and a half grains t. i. d., one hour before meals, and, if necessary, one tablet at

bedtime. The patient is allowed no fluids for one hour before or for one hour and a half after eating. Plenty of fluid is allowed between these hours, and only dry food for meals. Surprisingly good results are obtained from this. In fact he has discarded corpus luteum, and many other remedies, since he began the use of luminal sodium. When this fails he sends the patient to the hospital for the glucose and insulin treatment.

In the treatment of the vomiting of pregnancy, he depends chiefly on two remedies, and those cases which he is unable to cure with luminal sodium he treats with glucose and insulin.

He is absolutely certain that abortions for the pathologic vomiting of pregnancy can be almost entirely prevented by the earnest application of this treatment.

He prepares the solution with the greatest care, using distilled water, well filtered through sterile gauze after preparing.

Occasionally there may be a chill and a temporary rise of temperature, but he has seen no harm come from this treatment. Faulty technique or impure solutions might result in serious trouble.

The glucose may be given in a 5- to 10- per-cent or even stronger solutions.

Use only a chemically pure glucose, preferably that put up in ampoules. He has heard of one death which was probably due to the use of an impure solution.

Much work has been done by Titus and others, and is still being done, in the use of glucose and insulin. There is some question as to the advantage of using insulin with the glucose, but it seems that if insulin aids in relieving acidosis and in carbohydrate metabolism in diabetics, it should also be of value in cases of this kind, where large amounts of glucose are put in the blood stream.

As a result of his experience with these cases, three indications stand out preeminently in importance in the order named: (1) Overcome dehydration; (2) supply carbohydrates; and (3) relieve nervousness and produce sleep. The first is done by using plenty of water with the glucose intravenously, by rectum and under the skin, if necessary. The second is done by large doses of glucose in the vein until vomiting ceases and then carbohydrates by mouth. The third is accomplished by the use of luminal sodium. This drug relieves the nervousness and produces the sleep which is so essential in these cases, and, until the stomach is able to retain this drug, he depends upon sodium bromide per rectum.—*Therapeutic Gazette*.

#### ORDERS IS ORDERS

A rookie sentry at Fort Snelling was walking a post that terminated at the bank of the Mississippi river. Two young second "looies" strolled to the water's edge and began to strip for a swim. The sentry stood watching them until one, having undressed, advanced to the water.

"Halt!" cried the sentry. "You can't swim here!"

"Then why didn't you tell us before we got our clothes off?" snapped a "looiie."

"My orders don't say nothin' about undressing," replied the sentry, saluting.—*The Trouble Shooter*.

## Book Reviews

**AMERICAN ILLUSTRATED MEDICAL DICTIONARY.** The terms used in Medicine, Surgery, Biology, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Medicine, and kindred branches. Edited by W. A. Newman Dorland, M. D., Member Committee on Nomenclature and Classification of Diseases of American Medical Association. Fourteenth Edition. Revised and Enlarged. Octavo of 1,388 pages, 319 illustrations, 107 in colors. Philadelphia and London: W. B. Saunders Company, 1927. Flexible binding. Plain, \$7.00 net; Thumb Index, \$7.50 net.

This edition has been thoroughly and extensively revised. Many definitions have been rewritten to bring the terminology in accord with the latest accepted ideas. Over two thousand new words have been added.

The illustrated features have been greatly enlarged in this edition. Over one hundred new cuts have been added. The volume is thoroughly up-to-date.

**THE SURGICAL CLINICS OF NORTH AMERICA.** August, 1927. Vol. 7, No. 4, The Brooklyn Hospital Number. Philadelphia and London: W. B. Saunders Company.

The contributors to this number are Doctors Alter, Bishop, Brinsmade, George Cochran, Jr., Crane, Davis, Field, Fisher, Given, Grace, Hunter, Ingraham, Jennings, Kramer, Lasher, Longmarino, Manard, Jr., Donald E. McKenna, Wm. F. McKenna, Morgenthaler, Nerb, Patrie, Rathburn, Sherwood, William S. Smith, A. L. Smith, Tanner Taylor, Zimmerman.

**EPIDEMIC ENCEPHALITIS.** By Leo M. Crafts, M. D. Illustrated. Richard G. Badger. 1927.

In this volume the author has presented in ordered sequence and comprehensive grouping what has up to the present time been established as accepted knowledge on the character and behavior of Epidemic Encephalitis.

**AMERICAN MEDICINE AND PUBLIC HEALTH.** By Harry H. Moore. With an introduction by a committee of Five. New York and London: D. Appleton & Company. 1927. Price, \$5.00.

This book aims to set forth in organized, logical form the chief facts now available in the present rapidly changing situation of the public health problem, and to present the economic, sociological and political aspects of those facts without which an understanding of them is impossible.

**CULTIVATING THE CHILD'S APPETITE.** By Charles Anderson Aldrich, M. D. New York: The Macmillan Company. 1927. Price \$1.50.

A timely book for parents beset with the baffling problem of the child's refusal to eat.

In calling attention to this common affection and analyzing its nature the author is doing a grateful service to both laity and physicians.

## HOW TO KILL A MEDICAL SOCIETY

"Don't come to the meetings. If you do come, come late. If the weather doesn't suit you, don't think of coming. If you do attend a meeting, find fault with the work of the officers and other members. Never accept office, as it is easier to criticize than to do things. Nevertheless, get sore if you are not appointed to a committee; but if you are, do not attend the committee meetings. If asked by the chairman to give your opinion regarding some important matter, tell him you have nothing to say. After the meeting, tell everyone how things ought to be done. Do nothing more than is absolutely necessary, but when other members roll up their sleeves and willingly and unselfishly use their ability to help matters along, howl that the organization is being run by a clique. Hold back your dues as long as possible, or don't pay them at all. Don't bother about getting new members."

## THEY POURED WATER INSTEAD INTO THE BARREL

A local Scottish Society decided to hold an outing. The wives of the members arranged to bring various kinds of sandwiches, cold meats, cakes, etc., while the men folk agreed to buy the liquors.

Each member promised to bring a quart of Scotch and to pour it into an empty barrel, from which all were to draw off as much as they wished.

One of the members figuring to save the expense of buying a bottle of Scotch, filled an empty bottle with water and poured it into the barrel when no one was looking, thinking that with so much Scotch a quart of water wouldn't be detected. However, when the members took their first drink from the barrel they discovered they were drinking water, for every Scotchman had poured a bottle of water instead of Scotch into the barrel.

## A "CATCHING" DISEASE

Patient (calling on family doctor)—"Doctor, my son has scarlet fever, and the worst part about it is that he admits he got it from kissing the housemaid."

Doctor (soothingly)—"Young people will do thoughtless things."

Patient—"But don't you see, doctor, to be plain with you, I've kissed the girl myself."

Doctor—"By jove, that's too bad."

Patient—"And to make matters worse, as I kissed my wife every morning and night, I'm afraid she will catch it."

Doctor (wildly)—"Good heavens! Then I will have it, too!"—*Medical Pickwick.*

## HE COULDN'T PLAY AFTER THAT

Clinton: "Let's take in a round of golf."

Donaldson: "I dinna play, laddie."

Clinton: "What, you a Scot and don't know the game?"

Donaldson: "I dinna say that. Years ago I did."

Clinton: "What made you stop?"

Donaldson: "I lost my ball."



## Society Proceedings

### ADAMS COUNTY

The regular monthly meeting of the society was held October 10, 1927, at the Elks' Club, being called to order by the president at 8:15 p. m. Thirty-one members and seven guests were present.

Dr. W. W. Williams reported his observations at the Mayo Clinic during his visit there in August and September. Dr. M. J. Capron, Battle Creek Sanitarium, Battle Creek, Michigan, gave a very interesting talk on Pernicious Anemia, describing in detail the recent advances that have been made in the diagnosis and treatment of the disease. Discussion was by Drs. J. W. E. Bitter, C. W. Pfeiffer, L. H. A. Nickerson, F. W. Bowles, C. D. Center, W. F. Pearce and finally closed by Dr. Capron. Dr. Wells made a motion that Dr. Capron be given a rising vote of thanks for the excellent address that he gave. This was carried unanimously. Dr. E. B. Montgomery reported the meeting of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, which he attended at Asheville, North Carolina, last month.

The Secretary made a motion that the minutes of the September meeting be approved as published in the Bulletin. Seconded and carried. The minutes of the October Council Meeting were read and approved. The applications for membership in the society of Drs. T. W. Rhodes and E. B. Miller were turned over to the Board of Censors. The President announced the appointment of Drs. Wells, McReynolds and Swanberg on the Educational Committee that had been approved at the October Council Meeting. The Secretary made a number of announcements and the meeting adjourned at 10:25 p. m.

HAROLD SWANBERG, M. D., Sec.

### COOK COUNTY

#### CHICAGO MEDICAL SOCIETY

##### PROGRAM

*Joint Meeting Chicago Medical Society and the Chicago Tuberculosis Society, Oct. 26, 1927*

Operative Collapse Therapy in the Treatment of Pulmonary Tuberculosis. Lantern Slides

RALPH C. MATSON,

Portland, Oregon.

This was the first meeting held in the auditorium of the new Medical and Dental Arts building.

### FIFTH COUNCILOR DISTRICT

The second annual conference of the Fifth Councilor District of the Illinois State Medical Society was held in Springfield, October 12, at the Abraham Lincoln Hotel.

We were fortunate in having at this meeting the President of the State Society, Dr. G. Henry Mundt,

and Dr. R. R. Ferguson, Chairman of the Educational Committee.

The following program was given:

#### Palm Room, Abraham Lincoln Hotel 10:00-12:00 M.

Presiding—Dr. William D. Chapman, Councilor, Fourth District.

Welcome Address—Dr. M. G. Owen, President, Sangamon County Medical Society.

Organizing a Live County Medical Society—Dr. W. R. Marshall, Secretary, DeWitt County Medical Society.

Discussion—Dr. J. M. Knochel, Lincoln; Dr. G. W. Ross, Watseka; Dr. C. W. Cargill, Mason City; Dr. H. W. Trigger, Loda.

The Importance of Having the Medical Men in a Community Well Organized—Dr. G. Henry Mundt, President, Illinois State Medical Society.

Discussion—Dr. Harold M. Camp, Secretary, Illinois State Medical Society; Dr. A. L. Brittin, Past President, Illinois State Medical Society; Dr. Frank Deneen, Bloomington; Dr. C. H. Dowsett, Watseka.

The Goiter Problem in Public Health—Dr. Edwin P. Sloan, Past President, Illinois State Medical Society.

Discussion—Dr. Herman H. Cole, Springfield; Dr. E. C. Gaffney, Lincoln; Dr. Walter G. Bain, Springfield.

#### Luncheon with Sangamon County Medical Society Palm Room, Abraham Lincoln Hotel 12:15-2:00 P. M.

Presiding—Dr. Harold M. Camp, Secretary Illinois State Medical Society.

Round-Table Talks—By Officers of the State Society.  
2:00-5:30 P. M.

Presiding—Dr. G. Henry Mundt, President, Illinois State Medical Society.

Breast-Feeding Campaign in McLean County—Dr. Ralph P. Peairs, Secretary, McLean County Medical Society.

Discussion—Dr. Elizabeth Ball, State Division Child Hygiene; Dr. N. D. Crawford, Pekin; Dr. H. C. Blankmeyer, Springfield.

Work of Education Committee—Dr. R. R. Ferguson, Chairman, Education Committee, Illinois State Medical Society.

Discussion—Dr. Wm. D. Chapman, Silvis; Dr. Isaac D. Rawlings, Director, State Department Public Health; Dr. C. S. Nelson, Springfield; Dr. S. T. Glasford, Pekin.

How the Doctor in Private Practice May Answer the Community's Call for a Child Hygiene Program—Dr. Grace S. Wightman, Chief, State Division of Child Hygiene.

Discussion—Dr. H. H. Tuttle, Superintendent of Health, Springfield; Dr. Wm. R. Grant, Easton; Dr. Irving Newcomer, Petersburg; Dr. Chas. H. Stubenrauch, Havana.

Policy to Be Pursued by a Medical Organization in Its Contacts with the General Public—Dr. George S. Edmonson, President, DeWitt County Medical Society.

Discussion—Dr. O. L. Zelle, Springfield; Dr. Horace Gibson, Sheldon; Dr. R. E. Valentine, Tallula; Dr. George A. Wash, Gibson City.

**Meeting at the Centennial Bldg.  
8:00 P. M.**

Presiding—Hon. Francis G. Blair, Superintendent Public Instruction for Illinois.

Address, Hon. J. Emil Smith, Mayor of Springfield.  
Address, "The Medical Profession and Public Health"

—Dr. G. Henry Mundt, President, Illinois State Medical Society.

Address, "Work of the Educational Committee"—Dr. R. R. Ferguson, President, Chicago Medical Society.

That the subjects presented by the officers of the State Medical Society, as well as others on the program, were greatly appreciated was shown by the excellent discussions. It was unfortunate that the weather had been very disagreeable, which no doubt kept some of the men living in the remote counties in the district from attending.

Dr. Ferguson spoke before the Kiwanis Club, and also, with Dr. Mundt, before a lay meeting in the evening. The luncheon with the Sangamon County Medical Society at noon and the round-table talks with Dr. Camp, presiding and acting as toastmaster, were splendid features of the meeting. Dr. Mundt was introduced as the travelling president of the State Society. He has certainly proven himself a most sincere and capable head of the medical organization of the state.

Dr. Wm. D. Chapman, chairman of the Council, and Dr. I. H. Neece, Councilor of the Seventh District, were present. There were many nice things said about Dr. Chapman as a presiding officer and his discussions of the program. His definition of Public Health was quoted by Dr. Haven Emerson in his talk before the Mid-Day Luncheon Club the following day.

Dr. James H. Hutton of the Scientific Service Committee, and Miss McArthur, Secretary of the Education Committee, were present and assisted in every way in the success of the meeting. Dr. A. L. Brittin and Dr. E. P. Sloan, Past Presidents of the State Medical Society, were present and active in the discussions of the program.

The splendid co-operation of Dr. Isaac D. Rawlings, Director of the State Department of Public Health, and the members of his staff, Dr. Grace S. Wightman, Chief of Division of Child Hygiene, Dr. R. C. Cook and Dr. C. S. Nelson, in the presentation and discussion of papers, was appreciated by all those who attended the meeting.

The President of the Sangamon County Medical Society, Dr. M. G. Owen, and the Secretary, Dr. O. L. Zelle, with the assistance of the Public Relations Committee, Dr. Herman H. Cole, and Dr. Walter G. Bain, were active in the arrangements and success of the meeting.

The program was planned, and the talks and some of the papers, for the purpose of answering many of

the questions and problems of the local county societies in their responsibility and contacts with the Parent-Teachers' Association, Woman's Clubs, vaccination, diphtheria prevention, and other health activities. Consequently, it was a disappointment that officers and members from a distance were unable to attend. It is hoped that we will be able to bring some of these features to the county societies that were not represented.

DR. S. E. MUNSON,  
Councilor, Fifth District.

### WILL-GRUNDY COUNTY

On Sept. 27 Dr. Alfred A. Straus of Michael Reese Hospital, Chicago, appeared before the Will-Grundy County Medical Society and gave an illustrated talk on the surgical treatment of gastric and duodenal ulcers. One week later Dr. Leon Block, also of Michael Reese, discussed the diagnosis and medical treatment of the same disturbances.

Dr. Henry Eugene Irish, associated professor of pediatrics of the University of Illinois Medical School, on October 19 delivered before the Will-Grundy County Medical Society a very instructive talk on "The Modern Treatment of Pneumonia in Children."

"The Diagnosis and Treatment of Lesions of the Tongue and Mouth" was the subject of an illustrated talk delivered before the Will-Grundy County Medical Society on Oct. 26 by Dr. Erwin Zeisler, Professor of Dermatology, Northwestern University.

LAWRENCE J. WILHELM, M. D.,  
Secretary Will-Grundy Medical Society.

### Marriages

RENO ARTHUR AHLVIN, Joliet, Ill., to Miss Elsie Schlick of East St. Louis, September 28.

ISADORE PAT BRONSTEIN to Miss Sylvia C. Lome, both of Chicago, in August.

VINCENT THOMAS JAMES LENTH, Evanston, Ill., to Miss Frances Leonard of Jacksonville, August 29.

NINA S. LITVIN, Chicago, to Mr. Gladie T. Svenchansky of New York, September 15.

EUGENE C. PIETTE, Oak Park, Ill., to Miss Ruth Elizabeth Bowers of Chicago, September 17.

### Personals

Dr. Clara Seippel Webster of Chicago and Tucson, Arizona, has accepted the position of Dean of Women of the University of Arizona. She will also act as Medical Adviser to Women. Recently she changed her surname from Widdowson to Webster.

Dr. Mary G. Schroeder has been appointed medical director of the Marquette Sanitarium, 3741 Sixty-sixth Place.



Dr. Edward W. Ryerson addressed the Chicago Orthopedic Club, October 14, on "Stabilizing Operations on the Foot."

Dr. Elmer E. Henderson addressed the Physicians' Fellowship Club, 2451 Kedzie Boulevard, October 21, on "Hospitals of Europe."

Dr. Ludvig Hektoen addressed the Massachusetts Medicolegal Society, Boston, October 6, on "Biologic Tests in Forensic Medicine."

Dr. Benjamin H. Hager, Mayo Clinic, Rochester, Minn., addressed the Chicago Urological Society, October 27, at the John B. Murphy Memorial, 50 East Erie Street, on "Urography."

At a joint meeting of the National Committee for the Prevention of Blindness and the Chicago Ophthalmological Society, October 14, Dr. Edward Jackson, Denver, spoke on "Prevention of Blindness from the Standpoint of the Ophthalmologist."

Dr. Roswell T. Pettit, Ottawa, Ill., addressed the Chicago Roentgen Society, October 13, on "Some Common Mistakes in the Making and Interpretation of Roentgen-Ray Films of the Chest in Pulmonary Tuberculosis."

Dr. Julius H. Hess opened the third season of medicohistorical lectures at the University of Illinois College of Medicine, October 19, with an illustrated talk on his recent visit to pediatric clinics in Norway, Sweden, Denmark and Holland.

The Chicago Gynecological Society and the Chicago Surgical Society held a joint meeting, October 14, at which Prof. S. A. Gammeltoft, University of Copenhagen, read a paper on "Conduct of Normal Labor" and Dr. Henry S. Plummer, Rochester, Minn., spoke on "Thyroid."

W. T. Bovie, Ph.D., has arrived in Chicago to take up his duties as professor of biophysics at Northwestern University Medical School. Dr. Bovie is a member of the Council on Physical Therapy of the American Medical Association and heretofore was associate professor of biophysics at Harvard University Medical School, Boston.

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### News Notes

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—An addition to the Spalding School for Crippled Children to cost \$1,000,000 is under construction; it will increase the enrolment to 1,500.

—Following the death from infantile paralysis of a pupil of the Dewey School, Evanston, the

health commissioner, Dr. John W. H. Pollard, examined and quarantined about 100 children of the school and other members of their families in their homes for a period of two weeks.

—More than 1,000 applications were received for admission to the freshman class at the Northwestern University Medical School this fall, it is reported. One hundred and twenty-two were accepted, and of these only five had just the minimum two years of college preparation. Fifty-five are said to have had a college degree and one a Ph. D.

The Illinois Trudeau Society will meet, November 10, at Jacksonville, in conjunction with the Morgan County Medical Society; following a luncheon, a clinical program will be presented by Drs. Carl A. Hedblom and Edward A. Oliver, Chicago; George Gellhorn, St. Louis, and Hermon H. Cole, Springfield. At the dinner, the speaker will be Dr. William A. Evans, Chicago. Dr. Cecil M. Jack, Decatur, is president of the society.

—The Illinois Conference on Public Welfare and Study Courses was held at Joliet, October 17-21. Among the speakers were C. C. Carstens, New York, executive director, Child Welfare League of America; Dr. Alex S. Hershfield, Chicago, state alienist, and Dr. Daniel D. Coffey of the Chicago State Hospital. The American Association of Hospital Social Workers also met at Joliet.

—About 125 physicians attended a dinner and meeting of the Winnebago County Medical Society, Rockford, October 4. The addresses were given by Drs. William F. Braasch, Mayo Clinic, Rochester, Minn., on "Diagnosis and Treatment of Kidney Stone," and Dr. Charles S. McVicar, Mayo Clinic, Rochester, Minn., on "Clinical Application of Recent Studies of the Liver"; Drs. Thomas H. Culhane, Arthur J. Connell and John R. Porter, all of Rockford, presented a case of congenital hemolytic jaundice.

—In connection with the annual meeting of the National Safety Council in Chicago, September 26-30, a pageant of safety was held in Soldiers' Field, Grant Park, October 5. The mayor issued a proclamation designating this day for reflection on methods for the prevention of accidents, urging every municipal department, industry and civic organization to participate. There was a parade by the high school pupils who take military training, the city officials and

the safety patrols from the public and parochial schools. There were floats, a skilful driving demonstration by chauffeurs, a life saving exhibition by the police department, and a demonstration by the Chicago Fire Department. The object was to focus attention on the prevention of accidents.

—The state department of public health celebrated its 50th anniversary at Springfield, October 13-14. The presiding officers at the meeting included the president of the state medical society, Dr. G. Henry Mundt, Chicago; the chairman of the council of the state society, Dr. William Chapman; the state health officer, Dr. Isaac D. Rawlings, Springfield; Dr. Edwin P. Sloan, Bloomington, and Dr. Frank L. Rector, Chicago. The speakers included Drs. Haven Emerson, New York; William A. Evans, Roy R. Ferguson, Benjamin Goldberg and Samuel S. Winner, all of Chicago; Harry G. Irvine, Minneapolis; Edward Francis, U. S. Public Health Service, Washington, D. C., and John J. McShane and George D. Heath, Jr., Springfield. Volume 1 of a history of public health service in Illinois was distributed. Dr. Ferguson read a paper before the Annual Conference of Health Officers on "The Medical Society in Public Health Work."

—The formal opening of the University of Chicago clinics and new medical laboratories on the Midway took place October 31 and November 1. At the convocation in Leon Mandel Assembly Hall, the president of Yale University, James Rowland Angell, LL.D., gave the address on "Medicine and the University." Luncheon was served for the delegates at the Albert Merritt Billings Hospital. Monday afternoon, October 31, William Mansfield Clark, Ph.D., John Hopkins University School of Medicine, Baltimore, addressed the departments of physiology, physiologic chemistry and pharmacology, on "Reduction of Dyes by Biologic Systems and Some Remarks on the Mechanism"; Dr. Robert Gesell, University of Michigan, on "Regulation of Respiration," and Dr. Arthur S. Loevenhart, University of Wisconsin Medical School, on "Studies in Drug Tolerance with Special Reference to the Esters of Nitrous and Nitric Acids." The assembly in the departments of pathology, hygiene and bacteriology was addressed by Dr. Karl Landsteiner, Rockefeller Institute for Medical Research, New York, on "Recent Investigations on Antigens." At the department of medicine

assembly, the Frank Billings Medical Clinic was dedicated, the presentation of the clinic and the endowment fund being made by the chairman of the citizens committee, Bernard E. Sunny. President Mason of the University of Chicago gave the response; Dr. Alfred E. Cohn, Rockefeller Institute for Medical Research gave an address on "Medicine and Science," and Donald D. Van Slyke, Sc.D., Rockefeller Institute for Medical Research, on "Urea Excretion in Nephritis." In the surgical clinic, Dr. Arthur Dean Bevan presented clinical demonstrations. Prof. I. Snapper, University of Amsterdam, spoke in Leon Mandel Assembly Hall on "Non-excretory Function of the Kidney" and Dr. Francis Carter Wood, director of cancer research, Columbia University, New York, on "Present Status of Cancer Research." Tuesday morning the Albert Merritt Billings Hospital and the Max Epstein Clinic were dedicated, Dr. Frank Billings, Chicago, making the presentation for the Billings family, and Max Epstein for the Epstein family. Rufus Cole, director, Hospital of the Rockefeller Institute for Medical Research, gave an address on "The Hospital and the Laboratory." Tuesday afternoon in the assembly room of the university clinics, Dr. William S. Thayer, professor emeritus of medicine, Johns Hopkins University School of Medicine, and President Elect of the American Medical Association, gave a clinical lecture on "Bacterial Endocarditis," and Dr. Evarts A. Graham, Washington University School of Medicine, St. Louis, on "Diseases of the Gall Bladder." The dedication of the hospital and clinics marks the opening of a program of expansion in medicine at the university which will extend over a number of years and include the construction of several additional hospitals.

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## Deaths

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HERBERT HUSKISSON CORNFORTH, DeKalb; Baltimore Medical College, 1909; a Fellow A. M. A.; who served in the medical corps U. S. A. in the world war and was a delegate from DeKalb post of American Legion at the convention in Paris, is reported to have died in Germany recently while on a tour of Europe.

PERRY DALE GAUNT, Warsaw; Hering Medical College, Chicago, 1906; a member of Illinois State Medical Society; district health officer; aged 45; died Oct. 7, in St. Joseph's hospital in Keokuk, Iowa, from appendicitis.

WILLIAM A. SKEEL, Kampsville, Ill.; St. Louis Col-



lege of Physicians and Surgeons, 1891; aged 61; died September 15.

CLARENCE EDWARD BLOOMBERG, Rock Island, Ill.; University of Minnesota Medical School, Minneapolis, 1927; aged 29; died, September 7, of pulmonary tuberculosis.

CHARLES FRANKLIN MARLIN BUTTERFIELD, Rock City, Ill.; Chicago College of Medicine and Surgery, 1909; a Fellow, A. M. A.; served during the World War; aged 47; died, September 8, of angina pectoris.

LENA HATFIELD, Chicago; University of Illinois College of Medicine, Chicago, 1906; aged 52; died, August 28, of cerebral hemorrhage.

MERRITT OWEN HOOVER, Chicago; Jenner Medical College, Chicago, 1905; a Fellow, A. M. A.; formerly on the staff of St. Elizabeth's Hospital, where he died, September 30, of atrophic cirrhosis of the liver, aged 55.

KATHERINE E. JAMES, Rockford, Ill.; Hahnemann Medical College and Hospital, Chicago, 1895; aged 58; died, August 18, at Carroga Lake, N. Y., of carcinoma of the rectum.

FELIX JOHN LANGENHORST, Chicago; State University of Iowa College of Medicine, Iowa City, 1895; a Fellow A. M. A.; University of Pennsylvania School of Medicine, Philadelphia, 1897; aged 59; died, August 20, of carcinoma of the pancreas.

BENJAMIN F. LOUNSBURY, Chicago; Northwestern University Medical School, Chicago, 1907; a Fellow A. M. A.; associate professor of clinical surgery, University of Illinois College of Medicine; chief of staff of Washington Boulevard Hospital; aged 51; was killed, October 21, in an automobile accident.

GOMER EDWARD METHERELL, Rockford, Ill.; Bennett Medical College, Chicago, 1911; a Fellow A. M. A.; aged 37; died, September 10, at the Johns Hopkins Hospital, Baltimore, of injuries received when the automobile in which he was driving was struck by a train some months ago.

EUGENE FAY NAYLOR, Springfield, Ill.; Rush Medical College, Chicago, 1920; member of the Illinois State Medical Society; served during the World War; aged 34; died suddenly, August 27, in Chicago, of heart disease.

JOHN TRUMBULL REEVES, Vandalia, Ill.; Keokuk (Iowa) Medical College, 1891; aged 67; died, September 13, of carcinoma of the face.

FRIEDRICH E. REICHARDT, Chicago; Chicago Homeopathic Medical College, 1896; formerly medical director of the Chicago Sanitarium; aged 69; died, September 27, of skull fracture, received when a rock was hurled through the window of a street car in which he was riding, presumably by a speeding train.

ROBERT HINEMAN H. SMITH, Eureka, Ill.; Kansas Medical College, Topeka, 1905; a Fellow A. M. A.; past president of the Mercer County (Ill.) Medical Society; on the staff of the Eureka Hospital; aged 47; died, August 18, of heart disease.

CHARLES WELLINGTON DURST, St. Elmo, Ill.; University of Wooster, 1879; member of the Illinois State Medical Society; aged 74; died, September 21.

GUSTAF ADOLPH GOETSCH, Chicago; Rush Medical College, 1898; formerly a druggist; professor of dermatology, Chicago Hospital College of Medicine; a Fellow, A. M. A.; aged 58; died September 28, of heart disease.

CHARLES P. GORE, Lawrenceville, Ill.; College of Physicians and Surgeons, Chicago, 1905; aged 47; died, October 16, after a year's sickness from leukemia.

ROBERT A. HANKINS, Carlinville, Ill.; Eclectic Medical College of Pennsylvania, Philadelphia, 1871; formerly mayor of Carlinville; died at the home of his daughter in Dallas, Texas, September 4; aged 79.

JOSEPH RALSTON HOLLOWBUSH, Rock Island, Ill.; Washington University Medical Department, St. Louis, 1880; a Fellow, American College of Surgeons; city physician; aged 67; died October 16. Dr. Hollowbush was chief of surgical service at Camp Sherman, Ohio, in the World War.

ELMER L. KELSO, Paxton, Ill.; Northwestern University Medical School, Chicago, 1883; aged 66; died from heart disease, October 7. He succeeded his father, Dr. H. A. Kelso, in practice at Paxton, 44 years ago. His son, Dr. Leon W. Kelso, is in practice in Carlinville.

MARY CAROLINE KNIGHT, Yorkville, Ill.; Northwestern University Woman's Medical School, 1882; a practitioner in Aurora for many years; aged 78; died at her home, October 12.

ROBERT I. LAW, Galesburg, Ill.; College of Physicians and Surgeons, Keokuk, 1871; a veteran of the Civil War; aged 82; died in St. Mary's Hospital, September 25.

MILLER D. MACHIN, Macomb, Ill.; Keokuk Medical College, 1896; member of the Illinois State Medical Society; aged 74; died, October 5, of heart disease.

ENOS E. PALMER, Ottawa, Ill.; Northwestern University Medical School, 1900; city health officer; member of the Illinois State Medical Society; aged 61; died suddenly in his office, of heart disease, shortly after performing an operation in Ryburn-King Hospital, September 29.

JOHN LUTHER POLK, Champaign, Ill.; Jefferson Medical College, Philadelphia, 1868; a former member of Illinois State Medical Society; retired after many years' practice in Arcola; Illinois Central Railroad surgeon; a relative of President Polk; aged 86; died September 17. Dr. and Mrs. Polk built the Emmanuel Memorial Episcopal Church of Champaign in memory of three sons.

JAMES W. SANDERS, Decatur, Ill.; Northwestern University Medical School, Chicago, 1889; a former member of Illinois State Medical Society; a practitioner in Decatur 34 years; chairman several years of Democratic county central committee; aged 74; died in Decatur and Macon County Hospital, September 30, from a malignant growth.

JOHN THOMAS WALSH, Cairo, Ill.; St. Louis College of Physicians and Surgeons, 1896; member of the Illinois State Medical Society; aged 56; died, September 21, of Chronic nephritis.

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# Illinois Medical Journal

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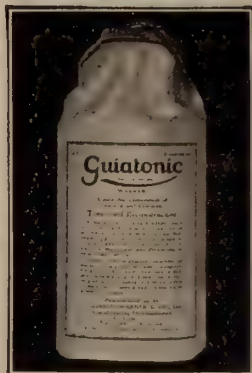
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# ILLINOIS MEDICAL JOURNAL

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## ILLINOIS MEDICAL JOURNAL

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Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 1618 Juneway Terrace, Chicago.

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## Editorial

### NEXT ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY

MAY 8 TO 11, 1928

NEW STEVENS HOTEL  
CHICAGO

The seventy-eighth annual meeting of the Illinois State Medical Society will be held in Chicago, May 8 to 11, 1928, in the new Stevens Hotel, which is the largest hotel in the world. On account of the character of the conference next year, it is thought advisable to extend the time to four days instead of three days.

By advancing the date one week, to May 8, there will elapse one month before the meeting of the American Medical Association in Minneapolis.

As a combination clinical and scientific session, clinics will be held at the new medical units of the University of Chicago, of Northwestern University, and of the University of Illinois, and at the Cook County Hospital. All scientific and general programs will be at the Stevens Hotel.

Exhibits will be at the hotel, including many scientific displays and demonstrations, as attractive features.

Dr. Nathan S. Davis III has been selected as general chairman of the committee on arrangements. He has a group of men on various committees who are laboring to secure unusual results. Invitations will be sent to the physicians of states adjoining Illinois, such as Michigan, Wisconsin, Iowa, Missouri and Indiana, all adjacent to Illinois, and this insures a record-breaking attendance. General hospital clinics will be arranged for both Monday, May 7 and Saturday, May 12, and during the session for a full week of clinics.

Officers of the five sections are anxious to get in touch immediately with members from both the Chicago Medical Society and the downstate societies who desire to read papers at the meeting.

Section Officers for the Convention are:



*Medicine:*

J. L. Sherrick, Chairman, Monmouth.

N. S. Davis III, Secretary, 952 North Michigan Blvd., Chicago.

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E. G. C. Williams, Secretary, Danville.

Early issues of the JOURNAL will detail the program for what will undoubtedly be a record maker in the history of State Society meetings.

## A FEW FACTS ABOUT THE STEVENS HOTEL

The Stevens Hotel, which will be convention headquarters of the Illinois State Medical Society, May 7-11, 1928, is the world's largest and greatest hotel, occupying the entire block on Michigan Boulevard between Seventh and Eighth Streets; the hotel overlooks Grant Park and Lake Michigan, representing an investment of \$27,000,000 in ground, structures and surroundings. There are 3,000 rooms each with bath, circulating ice water, closet, outside light and air.

The Stevens rises twenty-five stories above the ground with a four-story tower above and five basement levels below. Four entire floors are given over to public use and service. These contain dining rooms, restaurants, lobbies, lounge rooms, ball rooms and shops. The Stevens claims the largest and most beautiful ball room in the world, equipped with motion picture screen and every facility for dinners, meetings, dances and spectacles, including a theatrical dimmer board by which every conceivable lighting effect with use of colors can be produced. There are seven ball rooms in The Stevens Hotel and nine private dining rooms with seating capacity from twenty-five to one hundred in each. There are one hundred rooms on the fourth floor which can be used for committee meetings or displays and which range in seating capacity from twenty-five to one hundred fifty.

During the first month of its operation a banquet was served to 4,700 people at one seating in record time. The power plant of The Stevens is the largest privately owned utility of its kind in the world and is equipped with generators capable of producing 3,200



Stevens Hotel, Headquarters for the 1928 Annual Meeting of State Society

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The silverware filled three freight cars, the hollowware alone weighing 43,576 pounds.

A 101-foot reservoir stores water for bathing and drinking purposes.

From the roof garden promenade one can see the cliffs and dunes of Michigan.

The lounge is carpeted with the three largest Saruk rugs in all the world, and is furnished at a cost of more than \$200,000.

The grand ballroom can seat 4,000 guests.

An army of 2,500 employes is necessary to keep up the service.

Fourteen passenger elevators will carry an aggregate of 224 guests at a time.

The telephone switchboard system is capable of receiving and transmitting calls sufficient for a city of 15,000.

The refrigerating plant has a capacity of 300 tons of ice daily.

The ice cream factory can produce 120 gallons of ice cream an hour, while the candy factory can satisfy the appetites of 15,000 small boys.

The laundry, operated on a weekly schedule, could care for the wants of a community of 60,000 people.

## DOCTORS WISHING TO READ PAPERS AT THE NEXT ANNUAL MEETING OF THE STATE SOCIETY

Any member of the state society who wishes to present a paper before any of the sections at the annual meeting of the State Society to be held at the Stevens Hotel, Chicago, May 8 to 11, 1928, is requested to communicate with the secretary of the section to which his subject logically belongs. The section secretaries are as follows:

### *Medicine:*

N. S. Davis III, Secretary, 952 North Michigan Blvd., Chicago.

### *Surgery:*

Earl D. Wise, Secretary, Champaign.

### *Eye, Ear, Nose and Throat:*

Walter Stevenson, Secretary, Quincy.

### *Public Health and Hygiene:*

E. W. Mosley, Secretary, 3325 Lincoln Avenue, Chicago.

### *Radiology:*

E. G. C. Williams, Secretary, Danville.

## PUBLISH YOUR GOOD PAPERS

The ILLINOIS MEDICAL JOURNAL is the official organ of the Illinois State Medical Society. The officers, the council and the editor desire to make this magazine of the greatest value to each member. Interesting papers presented before each county society should be sent to the JOURNAL for publication, and each county society secretary should make it his personal business to report to the editor of the JOURNAL the happenings at each meeting. Invariably there is something of interest and assistance to doctors everywhere that takes place at these gatherings. If this is done, the JOURNAL will gain in interest to its membership societies and to subscribers in other states. A statement as to when and where the paper was read and the name and address of the author should accompany these contributions, and they should of course be typewritten and either *double* or *triple* spaced.

Some excellent papers submitted for publication have lacked the author's name, an omission that has made publication impossible. Doubtless science has lost many valuable contributions from just such trivial negligence. Will not all the county secretaries and also the individual members keep this in mind so that the ILLINOIS MEDICAL JOURNAL can be of the greatest possible service to the medical profession?

## TESTIMONIAL FOR DR. ZEUCH

EDITOR OF HISTORY OF MEDICAL PRACTICE IN  
ILLINOIS WILL BE TENDERED DINNER  
DANCE, JAN. 13, 1928

The Northwest Branch of the Chicago Medical Society and the Physicians Fellowship club will give a dinner, Jan. 13, 1928, in honor of Dr. Lucius Zeuch, who is editor of the first volume of the History of Medical Practice in Illinois. This will be at the Logan Square Masonic



Temple at 6:30 p. m. Dr. Glen Frank, president of the University of Wisconsin, will be the speaker. Dr. Zeuch performed a monumental task in his compilation of this history, devoting to it many years of his life and much of his money at great sacrifice of his health and his practice. John E. Koons is president of the Northwest Branch and Dr. Goldye Hoffmann, 7 West Madison Street, Chicago, is secretary. Reservations for places at the dinner, priced at \$2.50 per person, should be made to Dr. Hoffman.

Dr. Goldye Hoffman,  
Chairman Entertainment Committee,  
Northwest Branch, Chicago Medical Society,  
7 West Madison Street, Chicago, Ill.

Dear Doctor:

Please reserve for me . . . . . seats at the dinner that will be given at 6:30 p. m., January 13, 1928, at the Physicians' Fellowship Club, in honor of Dr. Lucius Zeuch, editor of the History of Medical Practice in Illinois. As the dinner is priced at \$2.50 per plate, enclosed find my check for . . . . . Dollars, \$. . . . .

Name . . . . .

Address . . . . .

(Please fill in distinctly name and address.)

## REPORT OF EDUCATIONAL COMMITTEE

SEPTEMBER 1 TO NOVEMBER 30, 1927

1,510 press articles were released to newspapers in Illinois. These included the regular health column used by 52 papers over the signature of the local county medical society, articles on diseases prevalent in certain communities, and news items regarding the regular and special medical meetings held in the state.

50 press articles were written and censored by the Educational Committee.

305 Physicians spoke before lay organizations representing all sections of Illinois. These physicians brought the message of preventive medicine to universities, high schools, teachers' institutes, women's clubs, all types of men's service clubs, Parent-Teacher Associations, Y. M. C. A.'s, Y. W. C. A.'s, business and industrial groups.

Several organizations in the state have asked

for a health program once each month. The public is becoming conscious of the fact that if they wish competent and authoritative speakers to talk on subjects pertaining to health, application should be made to the Educational Committee of the Illinois State Medical Society.

30 radio talks were given over stations WGN, WJJD, and WLS. Ten minute talks are given every Tuesday morning at 11:45 over WGN.

29 moving picture films were ordered for hospitals, schools, and churches, also to illustrate special talks given before men's and women's clubs.

Thousands of posters and educational pamphlets were secured for distribution at special meetings.

A Colored Speakers' Bureau has been organized which will enable the Committee to schedule speakers for the colored men's and women's clubs in Illinois.

The Committee assisted three communities with Toxin-Antitoxin educational campaigns.

The Committee cooperated with other agencies during National Education Week. On Health Day talks were given by Chicago physicians before 8,000 Chicago High School students, and newspaper articles were released to one paper in each county of the state.

Physicians scheduled to speak before lay audiences may be able to secure outlines and reference material through the office of the Educational Committee.

## THE WORK OF THE EDUCATIONAL COMMITTEE IS BRINGING RESULTS

ILLINOIS COUNCIL OF PARENT-TEACHER ASSOCIATIONS

360 N. MICHIGAN AVENUE, CHICAGO, ILLINOIS

October 31, 1927.

Dr. R. R. Ferguson,  
Chairman Educational Committee,  
Chicago.

Dear Dr. Ferguson:

In compliance with your request I am sending you an excerpt from Mrs. Buhlig's Conference Message. If this does not fully answer, please let me know. I quote as follows:

"There are certain things I wish I might say to you this fall. A discussion of the Summer Round-Up, its value, and the methods and procedure to be followed in cooperation with other

members of the community was one such subject. For three years Illinois Parent-Teacher Associations have been promoting this work. They are asked to promote it again next year. We feel we have demonstrated the value of sending children to school 100% physically fit. The caution sounded by our National Chairman, Miss Mary Murphy, at our Quincy meeting last Spring should be repeated. She urged associations to include the physicians, dentists, and nurses (where the latter are used), in the Summer Round-Up Committees. Our organization at its September Board Meeting went on record as recognizing that the work of physicians in public health is basic; that physicians' cooperation be solicited; and that the Summer Round-Up work be encouraged on the basis of physicians and dentists receiving remuneration except in the cases of indigent families. As many of you know the ethics of the Medical Profession has been contrary to anything approaching the free practice of medicine except for the indigent poor. The Illinois Medical Society went on record concerning this in 1924 and again in 1927 and probably did so long before that. The Summer Round-Up as an educational demonstration should appreciate the fact that the services of physicians and dentists are their means of livelihood just as the attorney's profession and the business man's business are their means of livelihood. Association leaders should approach these professional men, when asking for cooperation with this fact in mind. A representative of our organization sitting in council with representatives of the Illinois Medical Society, Illinois Dental Society, and the Illinois Federation of Women's Clubs, as an Advisory Council to the Child Hygiene Division of the Illinois Department of Health has been able to make progress in this direction, has given us an appreciation of the objectives of these other organizations, and should lead to profitable cooperation in statewide movements. Before time for the next registration for Summer Round-Up work I feel sure our organization will have definite suggestions to give concerning methods to be presented to secure the cooperation of the organized physicians in the County. The Board of Managers ask our associations to report fully to our state organization any matter concerning which an accord has not been reached with the local group of physi-

cians or the County Medical Society, in the hope that through conference between our state organization and the Illinois Medical Society such matters may be adjusted to the mutual satisfaction of all concerned. In other words, this vast project which involves the members of two splendid organizations, which needs the sympathetic and appreciative cooperation of both organizations, must be carefully planned in order that there may be no injustice to any one."

Signed "BLANCHE A. BUHLIG."

Very truly yours,

(MRS. IRENE M. SYMONDS),

Acting President.

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### PHYSICIANS AND SURGEONS ECONOMIC LEAGUE FAILS TO PROVE ITSELF THE SOLUTION OF PROBLEMS OF THE MEDICAL PROFESSION

Another unique though inappropriate attempt to exploit the medical profession appears now in the guise of a "protective organization" or "collection agency," that will be known as the Chicago Physicians and Surgeons Economic League.

According to circularization and organization stationery, two of the officers are physicians. The business manager, and apparently the actual working head is "I. Braverman."

The *Chicago Tribune*, in a news story of Nov. 18, 1927, accounts Mr. Braverman as having been under indictment in various labor sluggings and sets forth other data from which the logical mind can deduce only that this league to "better the physician's tasks," make his life easier and help him collect his bills will in reality be a Tom Sawyer proposition for the organizers. Further, that it is a bold step to unionize the doctors at their own expense.

A preliminary initiation fee of \$5.00 and a subsequent fee of \$2.00 per capita each month or a minimum of \$24 per annum paid into the league by Chicago physicians alone would amount to \$100,000 per annum from the Chicago Medical Society alone, and at least \$150,000 per annum from the doctors in Cook County in addition to the initiation fee of at least \$30,000 that



would be turned over to "I. Braverman, business manager."

At least there is nothing to indicate that anybody else would be the custodian of the fees, nor to show how their disposition will be controlled any more than there is any statement made as to who originated the league, nor where the money comes from that promotes it. Dr. M. J. Sullivan, president, addressed the Council at its last session and said that beyond its officers he could not name its sponsors or its originators. Dr. Sullivan is president, George M. Redmond is secretary, and I. Braverman is business manager.

Offices are named as 542 South Dearborn Street.

So far as the collection agency feature is concerned, it may be remarked in passing that this advantage, so-called, can be only "pure bunk." Already the Chicago Medical Society has arrangements with a collection agency that handles the work so well only one complaint has been received during the past year; that protects its clients from suit and that leaves the Chicago Medical Society itself through its council as final arbiter with exclusive jurisdiction in all disputes. Further this agency now employed is under agreement to be absolutely bound by the decision said council shall render, without review by any other agency or public tribunal. This agency works under a fee, nothing like that approximated at by the most conservative estimate by the new "league." In fact, this agency gets only a percentage fee.

This league can not in any way seem to be merely a new fashion of organizing the profession. Necessary though such organization is and often as it has been urged, undoubtedly any such organization should come from the physicians themselves and not from outside sources, especially one with such generous "initiation" fees.

Such conditions of statement of fact lead the logical mind to draw only the premise that this is a lay organization, the creature of some unknown group that will make a pawn of the medical profession, as well as become a drain upon its finances to no beneficent end at all. While organized ostensibly to relieve those grievances in professional life under which physicians labor, with the collection of delinquent bills a specific rainbow of promise, there is no suggestion in-

corporated in the pleas that indicates the fashion in which this new organization would endeavor to correct many evils. It has all the traits of any advertised panacea, and it is doubtful whether any more than for tuberculosis there can be found any magical formula of administration that will overcome the abuse of medical charities, difficulties of collections, attempt at state medicine, and similar obstacles to the progress of medical science. Elimination of these handicaps is a promise held out as bait to get membership in the "Economic League." This in the face of the fact that the organized profession in Chicago and Cook County as elsewhere has been giving and is now bending its attention to the solution of these annoying problems. Can any new organization not emanating from this organized profession as a whole hope to outstrip in efficiency those men whom the problem most intimately concerns and whose officers can be depended upon at all times to act with proper discretion and purpose for the safeguarding of the rights of the ethical profession and the public welfare? Further, these officers of the recognized medical organization are responsible to this organization itself, made up as it is of physicians and surgeons and not an organization upon whose executive committee lay persons play so important a part, who are not responsible to anyone and who will handle about a quarter of a million of dollars paid in by doctors.

Speed of achievement promised by the spokesmen for this new league calls to mind the adage that "Haste makes waste." It is doubtful that this league can use any shortcut methods to bring about these needed reforms that would be acceptable to the ethical medical profession. Let Dr. Sullivan be quoted again as stating that not only did he not know the originators of the league, but that he did not know who appointed him, nor who was back of it.

In the face of these facts it would appear to be highly important that the medical profession should unite in vigorous opposition to this movement that pretends to be able to take from the shoulders of the medical profession all its burdens from an ultra altruistic intention and with an omnipotent perspicacity.

There would seem to be no reason for membership in this league.

## MENACE OF OVERSTANDARDIZATION OF CARE OF THE SICK AND HOSPITALIZATION AND EXPLOITATION OF THE DOCTOR

Evils of the modern trend of overstandardization in its menacing effect upon public welfare through the deterioration of the care of the sick find drastic arraignment at the hands of Dr. Malcolm L. Harris, chairman of the Judicial Council of the A. M. A., in an article on "Medical Economics" published in the *Journal A. M. A.*, under date of Nov. 26, 1927.

Careful study of the entire article by Dr. Harris is recommended. A few of the salient points made by the doctor are contained in these paragraphs:

"It should be the duty of all physicians who are actively concerned with hospital work to see that the primary purpose of the hospital—namely, the care of the sick—is not diverted or minimized by the prevailing passion for so-called standardization, which seems to have obsessed so many organizations and institutions today. Hospitals are being flooded with elaborate questionnaires, some of them asking questions which no self-respecting institution would answer, such as the names and salaries paid its superintendent and other employees, and the names and particular religion of the members of the staff, and are being overrun by young inspectors who have no knowledge of, or experience in, the management of hospitals, each with an arbitrary yardstick with which to measure and rate the hospital according to the dominant idea of the institution doing the rating. One will rate the hospital on the basis of its physical equipment; another on its scientific paraphernalia; a third on the percentage of autopsies held on the dead; a fourth on the number of beds and its facilities for training interns; a fifth on the willingness of the members of the staff and all others practicing in the hospital to sign an iron-clad stultifying oath concerning fees, which it is acknowledged cannot be enforced and which, as is well known, is constantly being violated by a large percentage of its own members, and so on down the list, while no one seems to have grasped the idea of rating hospitals according to the amount of good they are doing in the relief of human suffering, having in mind the economic conditions of the community served.

Physicians must have strength of character enough to assert themselves in the management of hospitals. They must be imbued with the high ethical principles of the profession and see that all those who work with them are likewise ethical. This is a duty they owe to themselves, their profession, their patients and the public."

There are few physicians of standing who have not been gulled by lay organizations into giving technical information for some seemingly legitimate purpose, and who have not stood appalled when this information has risen to greet them in some unexpected place and in such distorted guise as to be hardly recognizable and to some extent, more or less to the doctor's own undoing

Upon this situation Dr. Harris wisely comments:

"Another source of economic loss to the profession is the selling of the physician's knowledge and skill to lay corporations organized for profit who resell the knowledge thus gained back to the patient at a much higher price. Many physicians throughout the country by reason of their undue credulity and under the guise of altruism have been imposed on in this way and are now selling their services to a jobber to be resold. This is not only a direct financial loss to those engaged in the work, but a breach of the obligation which every physician owes to the profession as a whole, as it lessens the confidence which the people have in its ability, lowers its dignity, and detracts from its independence. The agitation which was raised against this practice a short time ago has already borne fruit, as one of the large insurance companies that formerly contracted with a corporation to do this work has now given it up and refers its policyholders to their family physician, where they belong, to make the periodic health examinations."

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## THE RISE AND FALL OF DISEASE IN ILLINOIS

The swing and lilt of above title might not at first glance be associated in the mind of the reader with a serious official publication. Nevertheless it is the title of an elaborate "Festschrift" published by the State Department of Health in honor of the 50th anniversary of the establishment of the State Board of Health, the predecessor of the present Department. The first volume,

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just off the press, is a handsome quarto volume of 432 pages with highly calendered paper, numerous charts and tables, maps, and portraits of pioneer physicians and officers.

Volume 1 is divided into two parts, one describing health conditions in the "Illinois country" from the earliest times that any information is available to the year 1877; the second part continues the story from the establishment of the Board of Health in that year to date.

The material covering the early and late history was widely scattered and required strenuous research and difficult editing to adjust contradictory evidence. Zeuch's History of Medical Practice in Illinois, Ales Hrdlicka, Boggess, Quaife, Catlin, Rauch's Sanitary History of Chicago, Koehler's Annals of Health and Sanitation, Proceedings of the Illinois State Medical Society and numerous letters from early settlers yielded their treasures for a fascinating story.

The general freedom of the Indians from communicable diseases before the arrival of white settlers in numbers is assumed. Some authors claim that certain skeletons of the mound builders show evidence of syphilis but others dispute the claim. The general characteristics of the "regimes" of the mound-builders, Indians, the French-Canadian, Spanish and American are compared. Malaria was very prevalent from 1780 till 1870 in central Illinois, though exact statistics were not available. About 1850 the zymotics became prevalent and typhoid fever became the subject of lively debate among physicians about the same time, especially the relations between typhoid, other fevers and the dysenteries.

Part 1 closes with a special study of mortality in Chicago and Springfield previous to 1877, and brief references to Kaskaskia, Shawneetown and Vandalia. Census figures of population and principal causes of death for the decennial years from 1850-1880 are included.

Even in 1817 the third General Assembly of the Territory of Illinois had passed a law authorizing the establishment of medical societies to examine candidates for practice of medicine, Dr. George Fisher being speaker of the House, and Ninian Edwards, Governor. Again, in 1819, the first State Legislature enacted a similar Act which was repealed in 1821. Various attempts were made to secure an efficient law, especially

after the organization of the Chicago Medical and Illinois State Medical Societies in 1850. All attempts failed until 1877, when the State Board of Health Act and the Medical Practice Act became effective.

Part 2 of volume 1 takes up the story at this point. The law thus placed upon the Board the duties of examining candidates for practice, supervising the control of communicable diseases as well as sanitation, the preparation and publication of vital statistics. But appropriations were so meager (\$5,000 the first biennium) and the work of examining candidates so strenuous that only a beginning of the other duties was practicable for several years. Dr. John H. Rauch, member, president and secretary of the board, 1877-1891, accomplished wonders with his available resources and is remembered with affectionate regard by many old-timers who treasure his "John Hancock" on the permits issued by him. Dr. James A. Egan, secretary, 1897-1913, had the happy knack of inducing the legislature to loosen the pursestrings and was made "executive officer" of the board which added to the efficiency of action.

Dr. C. St. Clair Drake became secretary of the board, 1914-1917, and in the latter year, under the Lowden Civil Administrative Code, he became the first Director of the State Department of Health (1917-1921). As secretary of the old board he had adopted the budget system of appropriations and had reorganized the work, appropriations amounting to \$166,000 in 1915. Moreover, the new Code established a separate Department of Registration and Education for the supervision of practice in medicine and other professions and trades. The first biennial appropriation was \$443,212, for the Department of Health.

Nothing could be more magnanimous than the credit given the Drake regime in the book. He is credited with being a genius for educational propaganda, for organizing exhibits that popularized and sold the idea of health to the public, in unique ways. This credit is the more noteworthy as public officials at times are tempted to ignore or belittle their predecessors.

I am abusing no confidence in asserting that the book under consideration was edited by the present Director of Public Health, Dr. Isaac D. Rawlings, ably aided and abetted by Drs. Wil-

liam A. Evans and Gottfried Koehler and Mr. Baxter K. Richardson.

The only signed article in the book is the chapter on the "Smallpox epidemic of 1893-1895" by Dr. Arthur R. Reynolds, who was Commissioner of Health of Chicago at the time.

Every practitioner in the State knows in a general way how the work of the State Department of Health has developed and increased in recent years. It touches us all through local health boards or departments, but it is not always realized that the State Director is the power and mainspring that coordinates the whole works. We do not attempt to detail all the variety of effort that goes into it.

The Vital Statistics Law of 1915 was received with mixed feelings at first by the profession, but it enabled the State to be admitted into the U. S. Registration area in 1918 for deaths and in 1922, for births. The completeness of reports is steadily improving under Dr. Rawlings' guiding hand.

The Division of Child Hygiene, Division of Surveys and Rural Hygiene, State Laboratories, Hotel and Lodging House Inspection, Public Health Instruction, Social Hygiene, have all aided in placing Illinois in the very front rank of healthful States. This is vividly illustrated by a tabulation from the U. S. Census Bureau showing that of all States of population of 4,000,000 or over, Illinois has had the lowest death rate for each of the past 6 years.

Special tables show the prevalence of communicable diseases and deaths for such recent years as statistics are available.

A chapter of "Auxiliary Health Agencies" is headed by the Illinois State Medical Society and it contains the full report of its Educational Committee for January to May, 1927.

Under "Summary and Conclusion" one of the editors attempted an "evaluation" of all the factors that have contributed to the great decreases in mortality from various diseases. But there is no law to prevent any reader from going over the evidence and revising the figures according to his own experience and qualifications.

Nor is giving credit necessary in detail. The splendid record reflects credit on all who shared in the effort. The State Department of Health

naturally deserves the lion's share and the director as its guiding genius.

A discriminating review of the proper function of a health department as distinguished from the functions of all allied or independent agencies and a bird's eye glance at future activities closes the tale.

The foreword intimates that a second volume will contain chapters relating to the organization and development of municipal boards and departments of health. We shall await the appearance of that volume with pleased anticipation, in the hope that it will reveal treasures equal to the first. The general style of the work is that of an up-to-date text-book with a complete index which makes all the data readily available.

The fanciful title is justified.

## LEADING PHYSICIANS BALK AT BEING EXPLOITED

### CALL CIGARETTE ADVERTISING USING THEIR PRESTIGE PERNICIOUS AND UNFAIR

Leading physicians throughout the country represent the implication that the medical profession has endorsed the preferential use of a certain brand of cigarettes as a cure or alleviative of throat irritation and for voice protection. In letters to the *Medical Review of Reviews*, which undertook a survey of leading physicians throughout the country to expose misleading advertising, physicians express their resentment and urge the public to be on its guard against accepting endorsements by a small minority as the authentic opinion of the 140,000 physicians of this country. The physicians among whom the survey was conducted were asked two questions by the *Medical Review of Reviews*. The first was: "Do you not agree with us that it is impossible for one cigarette to have any advantage over all others in regard to throat ease or irritation?" to which the answer was almost unanimously "yes." The second was: "Is it not your observation that there is no scientific reason for preference for any given cigarette and that any preference is on a taste basis?" to which the answer was almost unanimously "yes."

Among the statements of leading physicians were the following:

"I think this form of advertising is pernicious and unfair. There is no scientific basis for any



of the claims made for 'toasted' tobacco. In my own case, the Company advised me that I had written a favorable report of their cigarette. I do not remember ever having penned one word about it. Furthermore, I am a non-smoker. Your enterprising effort is a public service."—From Dr. I. W. Voorhees, 114 East 54th Street, New York City.

\* \* \*

"I am very glad to add my endorsement to the movement for which you are responsible to acquaint the public with the negative side of the cigarette question. I wish to congratulate the editors on this worthy movement."—From Dr. Edward King, 707 Race Street, Cincinnati, Ohio.

\* \* \*

"I received the document your referred to, but as I do not smoke I gave the box away and did not answer the questions. It sounded foolish to me. At a certain restaurant where several of us lunch I did not meet a doctor that had answered the questions and the whole business was treated as a joke by all."—From Dr. P. W. B. Wing, 1000 Watts Building, San Diego, California.

\* \* \*

"The advertised toasted kind have always irritated my throat."—From Dr. William L. Ayres, Groton Building, Cincinnati, Ohio.

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"They sent each physician a carton of cigarettes—gratis—with it the questions with return post cards, very convenient and no trouble, so they would get many favorable replies. I did not answer the questions but smoked the cigarettes and coughed as usual. It is not a scientific survey—far from it."—From Dr. William J. Mellinger, Granada Building, Santa Barbara, Cal.

\* \* \*

"It is a herculean task to attempt to stay or modify this nefarious business and you are certainly to be congratulated for your attempt to do so."—From Dr. E. Eugene Holt, Sr., 722 Congress St., Portland, Maine.

\* \* \*

"I have amused myself momentarily by reading the various testimonials, and have wondered how long it would be before the whole scheme would be labeled 'bunk'."—From Dr. F. J. Pierce, The Pueblo Medical Group, Thatcher Building, Pueblo, Colorado.

Signed MEDICAL REVIEW OF REVIEWS.

## FIFTH NORTHWESTERN GRADUATE HONORED WITH LEGION CROSS

Dr. Isaac A. Abt, professor of pediatrics in the medical school of Northwestern University, who was awarded the cross of the Legion of Honor by representatives of the French government last week, was the fifth graduate of the medical school of Northwestern to receive this decoration. Dr. Robert Preble of the class of 1891, the same class in which Dr. Abt was graduated, Dr. George de Tarnowsky, 1900, Dr. Frank Billings, 1881, all of Chicago, and Dr. Charles Mayo, 1888, of Rochester, Minn., have been awarded this high honor by the French government for outstanding achievements in medicine, as has Dr. Hugh Patrick, emeritus professor of nervous and mental diseases in the medical school.—*Evanston News-Index*.

## THE AMERICAN BOARD OF OTOLARYNGOLOGY

An examination was held in Detroit on September 12, during the session of the American Academy of Ophthalmology and Otolaryngology. One hundred and two applicants appeared for examination, with .107% failures.

An examination was held in Memphis on November 14th, preceding the session of the Southern Medical Association, with .127% failures.

In the course of the past year, three hundred and sixty-nine applicants have been examined.

In 1928, examinations will be held in Minneapolis, on June 11th, at the session of the American Medical Association, and in St. Louis, on October 15th, during the meeting of the American Academy of Ophthalmology and Otolaryngology.

Prospective applicants for certificates should address the Secretary, Dr. W. P. Wherry, 1500 Medical Arts Building, Omaha, for proper application blanks.

DR. W. P. WHERRY,	DR. H. P. MOSHER,
Secretary.	President.

## DAUGHTERS OF 1812 ASK ABOLITION OF CHILDREN'S BUREAU

Patriotic organizations of women in the United States composed of descendants of those men who fought in the wars of the Revolution and of 1812 are demanding abolition of the Children's Bureau of the Department of Labor, an

investigation of bureaucratic practices steadily involving the national government to its imminent destruction and a return to those principles upon which the world's greatest democracy was founded and prospered.

The Daughters of the American Revolution demand among other things that "all federal activities not necessary to the performance of national duties shall be discontinued as rapidly as possible, thereby restoring to our Nation, our States and our individual citizens the respective responsibilities imposed by the form of government for which our fathers fought, worked and died."

The Daughters of 1812 demand "abolition of the Children's Bureau in the Department of Labor as the peak of our bureaucratic despotism."

Nor is this all. The Sheppard-Towner Act and its interferences appear to be decidedly *persona non grata* among all of the patriotic organizations of women, according to their own pronouncements as published in the "Woman Patriot" (dedicated to Defense of Family and the State) under date of May 1, 1927. We quote:

#### DAUGHTERS OF 1812 ASK ABOLITION OF CHILDREN'S BUREAU

The National Society, United States Daughters of 1812, at their Associate Council at Washington, April 27, unanimously adopted the following resolution, which previously had been presented by their National Loyalty Committee, and favorably reported out by their Resolutions Committee:

WHEREAS, The National Society, United States Daughters of 1812, has duly considered the following facts, which are deemed to require the attention and action of our members:

1. The original settlers of this country came here to secure freedom from Old World oppression. They fought the American Revolution to crush the despotism and bureaucracy of a foreign ruler, who "erected a multitude of new offices" and "sent hither swarms of officers to harass our people and eat out their substance."

2. In the words of the Supreme Court of the United States (116 U. S. 616) quoting John Adams "the Child Independence was born," and "the first scene of the first act of opposition to the arbitrary claims of Great Britain" came when a distant parliament delegated power to bureaucrats to invade American homes, thus placing "the liberty of every man in the hands of every petty officer," as James Otis declared.

3. The American people are again subjected to a mounting bureaucracy, this time imposed by their own representatives under lobby pressure, comparable to

the oppressive systems of Europe, and repugnant to or Constitution.

4. Again, as in the beginning of the fight for American freedom, the worst and most tyrannous form of bureaucracy is that which invades our homes and places our liberties at the mercy of petty tyrants.

5. The Children's Bureau, in the Department of Labor, is the peak of our bureaucratic despotism.

6. George III would be astonished at his own moderation could he read today the "expanding program" of that Bureau for centralized, uniform "standards" framed by petty officers of our Government, assisted by foreign advisers, for the minute regulation of the most domestic details of our private lives, and the education, care, work and even play of our children.

7. The Children's Bureau was established by Congress in 1912 merely as a fact-finding statistical agency. Congress had no idea of giving this Bureau administrative power to supervise our mothers and standardize our children. But this Bureau has persistently overridden the terms of its establishment, and has by overt act and propaganda and the initiation of laws to be administered by itself abused and exceeded the authority granted it by Congress, or permitted under the Constitution.

8. It has constantly disseminated Socialist, internationalist, un-American theories in its official reports and publications and striven to inject Socialism "into the flesh and blood of Americans," obedient to the instructions of Friedrich Engels (co-author with Karl Marx of the Communist Manifesto) to his disciple, translator and American lieutenant, Mrs. Florence Kelley (formerly Wischnewetzky) who initiated the establishment of the Children's Bureau and has led all the drives to increase its power.

9. It has striven for money and power until it has increased its first appropriation of \$21,936 in 1913 to \$1,300,000 for the current fiscal year (an increase of over 3,000 per cent) and its authorization to gather facts and statistics concerning children, with no administrative authority, has been stretched until, in 1922, the Chief claimed:

"The Children's Bureau has the whole field of child welfare and child care."

10. Further, in 1924, the Children's Bureau asked for "a full grant of power" by constitutional amendment, "to limit, regulate and prohibit the labor (paid or unpaid, in the home or on the home farm as well as factory workers or field hands) of all persons under 18 years of age," a power not asserted by any Government today save that of Soviet Russia.

11. In defiance of Civil Service ethics, the Children's Bureau operates as a political machine for its self-aggrandizement, and its Chief boasts of her "legislative technique," and teaches and leads "the final . . . assault upon the legislature or the Congress."

12. The Chief of the Children's Bureau, in her capacity as consultative member of the Executive Committee of the Women's International League for Peace and Freedom, is thus affiliated with the leading Communist-Pacifist women of Europe, and is consulted upon all the policies of that organization, whose dis-



loyal propaganda has previously been condemned by the Daughters of 1812.

13. The Children's Bureau has advertised, indorsed and recommended, at public expense, a Communist book (Society and Motherhood) by the arch-communist, Alexandra Kollontay, former Soviet Commissar of Social Welfare, and at present Soviet Minister to Mexico, as:

"The most comprehensive study of maternity benefits and insurance which has yet appeared in any language is the volume by Mme. A. Kollontay. . . . Society and Motherhood." (Children's Bureau publication No. 57, page 175, Maternity Benefit Systems in Certain Foreign Countries.)

This indorsement of Kollontay's Communist book is still circulated by the Children's Bureau, at public expense, under an official frank certifying it to be "official business" of the Bureau, and has never been modified or withdrawn, despite public criticism on the floor of the Senate and elsewhere, since 1921.

14. The Children's Bureau is broadcasting other Socialist propaganda for maternity benefits, children's doles, government guardianship of children and compulsory registration of expectant mothers, hostile to American civilization, and intolerable to a self-respecting free people.

15. When established in 1912, the Children's Bureau was the first of its kind in the world, and admittedly "an innovation in government." Advocates of this bureaucratic novelty urged as precedent the Federal Bureau of Animal Industry in the Department of Agriculture, dealing with the breeding, care and feeding of hogs, cattle and sheep for slaughter. Backers of the Children's Bureau have so ceaselessly bracketed care of children and animals that Senator Smoot in 1924 asked advocates of Federal control of children, "Well, do you not think that there is quite a difference between an individual and a hog as to his constitutional rights?"

16. The only justification for such bureaucratic supervision of homes and children is in a Communist State, where governmental guardianship of all children is a necessary sequence to the Communist program to abolish marriage and destroy the family, as in Soviet Russia.

17. In the United States, the very existence of such a Bureau is an insult to American parents.

Now, therefore, be it

*Resolved*, By the National Society, United States Daughters of 1812, that we hereby respectfully petition the Congress of the United States to abolish and disestablish the Children's Bureau, by repeal of the Act of April 9, 1912, creating the Bureau; as there is no excuse for the continuance of this Bureau except to serve as a Socialist propaganda agency in the future as in the past;

That as all statistical reports of infant and maternal mortality and births are covered by the Vital Statistics Division of the Census Bureau; all educational matters relating to children are covered by the Bureau of Education; all public health activities of the Federal Gov-

ernment relating to children are better and safer in the hands of the Public Health Service; and all investigations and reports relating to minors in industry may be made by the Bureau of Labor Statistics, or other divisions in the Department of Labor, the abolition of the Children's Bureau is a reasonable and necessary step to prevent duplication and promote efficiency in the Government Service, as well as a positive step for the better protection of our homes and children.

## WOMEN'S CONSTITUTIONAL LEAGUE OF MARYLAND

February 19, 1927

### RESOLUTION FOR DISESTABLISHMENT OF CHILDREN'S BUREAU

"WHEREAS, We have previously gone on record as being in favor of the McCullough Resolution, which passed our last General Assembly, and which urged that useless bureaus in our National Government be disestablished.

"Therefore, we ask Congress to do away with the Children's Bureau in the Department of Labor, as being one of the most unjustifiable and unnecessary because it interferes in the private lives of citizens, and encroaches on the right of our State to direct its own public health work."

## NORTH CAROLINA D. A. R. FOR ABOLITION OF CHILDREN'S BUREAU

These are some of the resolutions passed by the 27th Annual State Conference, North Carolina Society, Daughters of the American Revolution, at Wilmington, N. C.:

"WHEREAS, It has been proved beyond reasonable doubt that certain graduates, residents or associates of Hull House, Chicago, including persons of extremely communistic views, have persuaded Congress to create what was then supposed to be simply a \$30,000 a year 'statistical agency,' but which was developed into an effort to obtain control of State health departments in matters relating to maternity, infancy and childhood; be it

"Resolved, That the Congress of the United States be respectfully urged by the North Carolina Society, D. A. R., in conference assembled to repeal the Act of 1912, creating the Children's Bureau, by the adoption of an amendment thereto declaring that the act creating the Bureau 'shall be of no force and effect after June 30, 1929.'"

"WHEREAS, In the past our Nation has been found at times unprepared for war, thus increasing our sacrifice of men and money, and

"WHEREAS, We believe that in order to preserve a permanent peace we must have adequate national defense; be it

"Resolved, That the National Defense Act, passed June 4, 1920, be supported in all its terms and a sufficient Regular Army, National Guard, Reserve Corps and Citizens' Military Training Corps be maintained at all times."

"WHEREAS, the National Board of Management, D. A. R., at the February meeting adopted unanimously with a rising vote the recommendation of Mrs. E. C. Gregory, National Legislative Chairman and North Carolina Regent, that the study of the Constitution of the United States, our constitutional form of government, its institutions, and all pending and future constitutional legislation in the U. S. Congress be made the subject of Chapter Study during the year; be it

"Resolved, That the North Carolina Daughters of the American Revolution accept this suggestion and give study of the Constitution its proper place in the year's work."

"WHEREAS, An attempt is being made to influence public opinion by the use of seditious propaganda and the teaching of harmful doctrines in schools in this country; be it

"Resolved, That all teachers in schools and colleges of North Carolina should re-affirm loyalty to the policies of the founders of this country and continue to inculcate by precept and example the principles of Christianity, support the Constitution of the United States, including allegiance to the foundation principle of the common law, the right of private ownership of property, respect for the Flag, reverence for law and order, and undivided allegiance to the Government of our country, the United States of America; that no person should be employed, or elected or retained in any position or department of our schools and colleges, with or without compensation, who is not in complete harmony with the spirit, letter and best traditions of the Constitution of the United States of America and the Government which it sets up."

(Signed) MARGARET OVERMAN GREGORY,

(MRS. EDWIN CLARKE GREGORY),

State Regent of North Carolina and National Chairman of Legislation in U. S. Congress (D. A. R.)

#### MARYLAND D. A. R. FOR LOCAL SELF GOVERNMENT

The Annual State Conference of the Maryland Society, D. A. R., Hotel Belvidere, Baltimore, March 16, passed the following resolution:

"The Daughters of the American Revolution stand uncompromisingly for local self-government; therefore, be it

"Resolved, That we indorse Joint Resolution No. 13 introduced in our General Assembly which will cause our cooperation under the Sheppard-Towner Act to cease."

#### NEW JERSEY SOCIETY DAUGHTERS OF THE AMERICAN REVOLUTION

*In Annual Convention Assembled, Old Barracks,  
Trenton, New Jersey*

March 18, 1927.

#### PETITION TO CONGRESS FOR DISESTABLISHMENT OF CHILDREN'S BUREAU

WHEREAS, It has been proved beyond reasonable doubt by documentary evidence and public records

that certain graduates, residents or associates of Hull House, Chicago, including persons whose extreme communism or pacifism has only recently been revealed to the American public, succeeded in 1912 in persuading Congress to create what was then supposed to be simply a \$30,000 a year "statistical agency" with no administrative power whatever over our States and children, called a "Children's Bureau," and

WHEREAS, those in charge of the Bureau immediately began and still continue a campaign (by means of an amendment to our Constitution), for full administrative power over all American children by that Bureau, and

WHEREAS, this Bureau has sought and obtained under the so-called Maternity Act of 1921, through a system of Federal subsidies, an effective form of control over many State Health Departments in matters relating to maternity and infancy, and

WHEREAS, the American people, aroused by the attempt to put control of American youth into the hands of a radical bureau, secured the rejection of the extreme and revolutionary measure called the Child Labor Amendment, and Congress itself, with the approval of the President, has now recently repealed the Maternity Act, the repeal to take effect June 30, 1929; and three bills have recently been introduced in Congress, one in the Senate and two in the House, to abolish the Children's Bureau; therefore, be it

Resolved, That the Congress of the United States be and is hereby respectfully urged by officers and members of the New Jersey Society Daughters of the American Revolution, to repeal the Act of 1912, creating the Children's Bureau, by the adoption at an early date of an amendment thereto, declaring, as in the recent repeal amendment to the Maternity Act, that the Act creating the Bureau "shall be of no force and effect after June 30, 1929"; and be it further

Resolved, That a copy of this resolution be sent to the Daughters of the American Revolution National Chairman on Resolutions, urging her to present this, or a similar resolution to Continental Congress, April, 1927, for adoption.

Moved by MRS. THOMAS E. SCULL, *State Chairman of Legislation.*

Seconded by MRS. FREDERICK F. TIPSON, *Regent of Westfield Chapter.*

(Signed)

FLORENCE HAGUE BECKER (MRS. WM. A.),  
*Resolutions Committee:* *State Regent.*  
Chairman, MRS. WALTER H. ALLEN,  
MRS. HENRY J. MILLER,  
MRS. ALFRED C. BENEDICT.

#### SENTINELS OF THE REPUBLIC

The following resolution was adopted by the Sentinels of the Republic at Boston, February 26, 1927:

"WHEREAS, The Children's Bureau in the Department of Labor was established by the Act of April 9, 1912, for the purpose of investigating and reporting to the Department on matters pertaining to the welfare of children and child life; and

"WHEREAS, The Children's Bureau has not been con-



ducted according to the original design as an investigating agency simply, but has constantly sought and has been given or has assumed to itself further powers in respect to the enforcement of child labor laws, the Maternity Act and the proposed Child Labor Amendment, and

"WHEREAS, The annual appropriations for the Children's Bureau have increased by successive steps from \$21,936 in 1913 to \$1,313,000 in 1926; and

"WHEREAS, By the Act of January 22, 1927, Congress has provided that the Maternity Act 'shall, after June 30, 1922, be of no force and effect,' and

"WHEREAS, The duties heretofore imposed upon the Children's Bureau to investigate the questions of infant mortality, the birth rate, orphanage, dangerous occupations, accidents and diseases of children and all duties now imposed upon the Chief of the Children's Bureau by the Maternity Act or any other law may be suitably performed by the Public Health Service and the Chief thereof, and the duties imposed upon said Bureau to collect information concerning juvenile courts, desertion, employment and legislation affecting children in the several States and Territories may be suitably performed by the Secretary of Labor, and

"WHEREAS, The Sentinels of the Republic at their annual meeting, January 13, 1926, received the recommendation of their executive committee concerning certain legislative policies and adopted these policies, including the following with respect to bureaus and commissions:

"We favor the abolition of useless governmental bureaus and commissions and those representing Federal activities in the field properly belonging to the States."

"Be It Therefore, Resolved, That the Sentinels of the Republic, through their Board of Directors, hereby renew their statement of their position in favor of abolition of the Children's Bureau, and respectfully petition Congress that said Bureau be accordingly abolished.

(Signed)

ALEXANDER LINCOLN,  
*President.*

THOMAS F. CADWALLADER,  
*Chairman, Executive Committee.*

OSCAR LESER,  
*Chairman, Policy Committee.*

Attest:

KATHERINE T. BALCH, *Secretary.*

#### THE WOMAN'S CONSTITUTIONAL LEAGUE OF VIRGINIA

*For—Home and Constitutional Government  
Against—Feminism and Communism*

Newport News, Virginia

Mrs. W. B. Rucker, President.

Mrs. Edward B. Cameron, Secretary.

Mrs. W. C. Graham, Vice-President.

Mrs. James Williamson, Vice-President.

Anna Moon Randolph, M. D., Corresponding Secretary, Box 79, R. F. D. 4, Hampton, Va.

At a meeting of The Woman's Constitutional League of Virginia, held at Hampton, Virginia, March 31, the responsibility of the Children's Bureau for Socialistic propaganda and legislation was freely discussed.

The following resolution was unanimously adopted:  
March 31, 1927.

#### PETITION TO CONGRESS:

Resolution for Disestablishment of Children's Bureau.

WHEREAS, The Children's Bureau of the Department of Labor, established in 1912, has been in operation for nearly fifteen years, an ample time in which to show its character, and

WHEREAS, The Children's Bureau has sponsored the Maternity and Infancy Act, which projects the power of the Federal Government into the affairs of the States, under a 50-50 Federal Aid scheme, and by thus disregarding State Rights which are guaranteed to the people under the Ninth and Tenth Amendments to the Constitution, there is being brought about a revolution in the form of Government of the United States which abrogates the freedom of the people in the various States to conduct their affairs as they will, and

WHEREAS, The Children's Bureau disregards the Fourth Amendment to the Constitution (which insures the "Right of Castle") by investigating welfare workers who invade the privacy of American homes, and

WHEREAS, The Children's Bureau seeks to take the control of children away from their parents by the Child Labor Amendment, which has been rejected by a majority of the States and has aroused the hot resentment of fathers and mothers against this drive for power by this Bureau, and

WHEREAS, The Children's Bureau has published, at the expense of the tax payers, "Bureau Publication No. 60—Standards of Child Welfare," showing the influence of foreigners who were invited to attend a Conference on Child Welfare Standards in Washington, May, 1919, thus giving "Proof of the new international sense of responsibility for Child Welfare"; and they further agreed upon such "Tentative Child Welfare Standards as appear in this book." Upon investigation these "Standards" are found to be in full harmony with the communistic idea that the child is a ward of the State. Their maternity benefits, or pensions for Mothers, are the same as advanced by the former Soviet Commissioner for Welfare, Alexandra Kolontai, in her booklet, "Communism and the Family," and

WHEREAS, The Children's Bureau has been and is now used as an avenue for the distribution of communistic propaganda to the States,

Therefore Be It Resolved, That the Congress of the United States be and hereby is respectfully entreated by the officers and members of The Woman's Constitutional League of Virginia to disestablish the Children's Bureau of the Department of Labor, and thus free the Government of, this nest of communistic propaganda.

Respectfully submitted,

MRS. W. B. RUCKER, *President.*

P. S.—Similar resolutions have been endorsed by the New Jersey Society, Daughters of the American Revolution at their annual State Convention held March 18, by the Massachusetts Public Interests League in February, by the Sentinels of the Republic at their annual meeting in January, 1927.

Senator William H. King, of Utah, February 25, 1927, presented to the Senate a Bill—S 5820—to repeal the Act of 1912 establishing the Children's Bureau.

When the people at large clearly understand that the activities of the Children's Bureau is a drive for power in every direction (health, education, labor, recreation) over the children of the Nation with its consequent invasion of the home, there is but little question of their demand for its abolishment.

#### D. A. R. RESOLUTIONS FOR CONSTITUTION AND AGAINST BUREAUCRACY

Among the noteworthy resolutions adopted by the 36th Continental Congress of the National Society, Daughters of the American Revolution, at Washington, April 19-23, 1927, were Resolution No. 8, pledging the organization "individually and collectively to defend and uphold the Constitution by loyalty to its sentiments, obedience to its provisions and by holding its principles sacred and inviolable"; No. 14, reaffirming the pledge of the 35th Congress to support adequate national defense against foreign and domestic enemies, and recommending "a definite intensive campaign, to be organized in every State" to combat and "to overcome subversive influences and defeatist forces"; and No. 15, opposing bureaucracy and "the unwarranted extension of Federal activities" and asking that "all activities of the Federal Government be confined to the effective discharge of the national duties expressly delegated" by the Constitution, and that "all Federal activities not necessary to the performance of those national duties be discontinued as rapidly as possible" to restore the responsibilities imposed upon the Nation, the States and the individual citizens "by the form of government for which our forefathers fought, worked and died." The full text of these three resolutions follows:

##### *No. 8, Adopted April 20, 1927*

WHEREAS, The National Society Daughters of the American Revolution as a patriotic body, organized to maintain and extend the institutions of American Liberty, recognizes the Constitution of the United States as the foundation rock upon which our government has rested securely since the beginning of our nation, and

WHEREAS, We realize that our nation's unprecedented growth and prosperity are due to the wise provisions and sound fundamental human principles therein contained which are unchanging and unchangeable, and

WHEREAS, We are conscious that subversive forces in our country today would undermine the teaching and change the principles of this Constitution which is America's most sacred possession,

*Therefore, Be It Resolved,* That we, the Daughters

of the American Revolution in this our Thirty-sixth Continental Congress assembled, wish to place ourselves on record as firm supporters of the Constitution of the United States, acknowledging it to be the greatest safeguard of human liberty ever given to mankind; and we pledge ourselves, individually and collectively, to defend and uphold the Constitution by rendering loyalty to its sentiments, obedience to its provisions and by holding its principles sacred and inviolable.

##### *No. 14, Adopted April 22, 1927*

#### APPROPRIATION FOR NATIONAL DEFENSE COMMITTEE

WHEREAS, The National Society, Daughters of the American Revolution in Thirty-fifth Continental Congress assembled, pledged themselves to support adequate national defense against enemies from without and enemies from within the Republic; and

WHEREAS, Members of the Thirty-fifth Continental Congress recommended a definite intensive campaign, to be organized in every state, to combat this danger, and

WHEREAS, It was resolved that State Regents be asked to appoint a chairman to direct the campaign of "Cooperation on National Defense," and

WHEREAS, This Committee on National Defense in its trial year of existence has proven its value throughout the Nation in helping its constituency to overcome subversive influences and defeatist forces, therefore be it

*Resolved,* That the National Board of Management recommend to Continental Congress that it provide financial support to enable the National Defense Committee to meet the incessant demands made upon it, thus demonstrating the ever-increasing appreciation of the necessity of its continuance.

Recommended by Resolution Committee April 20, 1927.

##### *No. 15, Adopted April 22, 1927*

WHEREAS, The preservation of the fundamental principles of the Constitution of the United States and the maintenance of efficient government and national security require that the resources and energies of the Federal Government shall be devoted exclusively to the national duties delegated to the Federal Government, and

WHEREAS, Assumption by the Federal Government, and relinquished by the State Governments of responsibility for and control over functions reserved to the States and the people by the Constitution, is gradually but certainly weakening the sense of individual and community responsibility, and undermining the institution of local self-government, resulting in impairment of the efficiency of both Federal and State Governments, and individual neglect of local civic duties, and

WHEREAS, Another direct and unwholesome result of the unwarranted extension of Federal activities is the creation of autocratic bureaucracy, in direct contravention of the American system of government devised by the founders of the Republic, and



WHEREAS, In the language of President Coolidge, "Unless Bureaucracy is constantly resisted it breaks down representative government and overwhelms democracy," now, therefore, be it

*Resolved*, By the National Society, Daughters of the American Revolution, that all activities of the Federal Government be confined to the effective discharge of the national duties expressly delegated to the Federal Government by the Constitution and that all Federal activities not necessary to the performance of those national duties be discontinued as rapidly as possible, thereby restoring to our Nation, our States and our individual citizens the respective responsibilities imposed by the form of government for which our forefathers fought, worked and died.

### AMERICAN WAR MOTHERS DENOUNCE MATERNITY ACT

#### RESOLUTION PASSED BY THE AMERICAN WAR MOTHERS ON THE PHIPPS-PARKER MATERNITY BILL

"WHEREAS, We believe that America has reached its present World leadership by the exhibition of capabilities peculiar to American home and Social Conditions, and

"WHEREAS, We believe that the substitution of any artificial interference with the American Home is certain to cause a decadence of the typical American qualities of leadership, and

"WHEREAS, These qualities of leadership are both the product of, and the surest safeguard for American liberty and American institutions, and

"WHEREAS, The Phipps-Parker Bill (S 2693, HR 7555) aims by extending the present maternity act to increase bureaucratic interference with the integrity of home life, and

"WHEREAS, The next logical step after communizing the child is to communize the mother, and

"WHEREAS, Many of the names mentioned in connection with the sponsorship are alarmingly familiar in connection with other communistic activities.

"*Therefore, Be It Resolved*, That the American War Mothers, an Organization incorporated by Act of Congress, do hereby enter vigorous protest against the passage of said Phipps-Parker Act, and that the president of this Association be, and is hereby authorized to furnish a copy of this resolution to each member of the committees of Congress before whom this measure is to be considered, to the public press and to all other agencies who will assist in preventing its favorable consideration by Congress.

"The above is a true copy of the resolution adopted by the National Executive Board, American War Mothers, at its meeting held in Thermopolis, Wyoming, July 12, 1926."

(Signed) MARGARET N. MCCLUER,

National President, A. W. M.

### MASSACHUSETTS PUBLIC INTEREST LEAGUE

210 Newbury Street, Boston, Mass.

February 18, 1927.

#### PETITION TO CONGRESS FOR DISESTABLISHMENT OF CHILDREN'S BUREAU

"WHEREAS, It has been proved beyond reasonable doubt by documentary evidence and public records that certain graduates, residents or associates of Hull House, including persons whose extreme communism or pacifism has only recently been revealed to the American public, succeeded in 1912 in persuading Congress to create what was then supposed to be simply a \$30,000 a year "statistical agency" with no administrative power whatever over our States and children, called a "Children's Bureau," and

WHEREAS, Those in charge of the Bureau immediately began and still continue a campaign (by means of an Amendment to our Constitution) for full administrative power over all American children by that Bureau, and

This Bureau has sought and obtained under the so-called Maternity Act of 1921, through a system of Federal subsidies, an effective form of control over many State Health Departments in matters relating to maternity and infancy, and

WHEREAS, The American people, aroused by the attempt to put control of American youth into hands of a radical bureau, secured the rejection of the extreme and revolutionary measure called the Child Labor Amendment, and

Congress itself, with the approval of the President, has now recently repealed the Maternity Act, the repeal to take effect June 30, 1929,

*Therefore, Be It Resolved*, That the Congress of the United States be and is hereby respectfully urged by officers and members of the Massachusetts Public Interests League, to repeal the Act of 1912, creating the Children's Bureau, by the adoption at an early date of an amendment thereto, declaring, as in the recent repeal amendment to the Maternity Act, that the Act creating the Bureau "shall be of no force and effect after June 30, 1929."

The resolution to send the above petition to Congress was adopted without one dissenting vote, and signed, individually, by all officers and members present.

#### D. A. R. PROVE THEMSELVES TRUE DESCENDANTS

(Editorial, Louisville Courier-Journal, April 28)

The Daughters of the American Revolution proved themselves to be true descendants of the patriots who won their independence and then established a republican union of sovereign States when, in their national congress, just concluded, they demanded the preservation of the rights of those States and sounded a warning to the women of the land to scan critically all proposed legislation which would affect the home and the care and education of children.

"Investigate the origin and object of all such legislation. Ascertain whether it is in accordance with the Constitution of the United States," warned the Committee on National Legislation.

The Daughters of the American Revolution are as awake to their duty as were the Minute Men of 1775. The must have recalled that the Tenth Amendment to the Constitution of the United States provides that "the powers not delegated to the United States by the Constitution, nor prohibited to it by the States, are reserved to the States, respectively, or to the people." That is the direct inference to be drawn from the vigorous resolution the congress adopted, which demands

That all activities of the Federal Government be confined to the effective discharge of the national duties expressly delegated to the Federal Government by the Constitution and that all Federal activities not necessary to the performance of those national duties be discontinued as rapidly as possible, thereby restoring to our Nation, our States and our individual citizens the respective responsibilities imposed by the form of Government for which our forefathers fought, worked and died.

No words could form a plainer Jeffersonian challenge to Federalism. They are a war cry against centralization, against the growing intrusion and bureaucratic government in the affairs of the State. They are a demand that intervention by a national government in the private affairs of the people must cease.

No specific mention of infringing legislation or further proposed invasion of the States by armies of bureaucrats was made in the D. A. R. resolution, but it is plain that the women are opposed to the establishment of a Federal Department of Education, and to such a proposal as the Child Labor Amendment, which would permit further overriding of State law.

The D. A. R., as individuals, have a historic background. Their forefathers have proven records of valor and a love of liberty. In protesting against the menace of centralized government, the "Daughters" are living up to the truest patriotic principles.

### ILLINOIS AND OTHER STATES THAT REPUDIATED THE SHEPPARD- TOWNER ACT JUSTIFIED UNEQUIVOCALLY

Illinois, Maine, Massachusetts, Kansas and Connecticut can congratulate themselves upon their wisdom in refusing co-operation with the Sheppard-Towner Act.

Findings reported by the Bureau of Legal Medicine and Legislation of the A. M. A. add another flatfooted argument against this yoke of atrocious taxation and unwarranted wholesale intrusion of personal and professional rights, that is further one of the insidious and fundamental instruments of an encroaching bureaucracy, that is socialistic, paternalistic and autocratic.

Dr. W. C. Woodward and J. W. Holloway, Jr., made the report that is published in the *American Medical Association Bulletin* under date of November, 1927.

So excellent and indisputable is the presentation of fact concerning the workings of the Sheppard-Towner Act that the ILLINOIS MEDICAL JOURNAL takes pleasure in quoting the report in full.

Statistics of the Sheppard-Towner Act in practice that are therein set forth will repay careful reading.

As the editor of the ILLINOIS MEDICAL JOURNAL has contended from the first, this report proves again that the Sheppard-Towner Act is not only a ludicrous piece of legislation but an unparalleled gold brick.

### THE SHEPPARD-TOWNER ACT: SOME ADMINISTRATIVE ANOMALIES

W. C. WOODWARD, M. D.

AND

J. W. HOLLOWAY, JR.

Bureau of Legal Medicine and Legislation, American Medical Association

The Sheppard-Towner Act was passed by Congress to assist the several states in "promoting the welfare and hygiene of maternity and infancy."<sup>1</sup> Each year Congress places \$1,240,000 at the disposal of the chief of the Children's Bureau and of the Board of Maternity and Infant Hygiene to accomplish that purpose. But Congress did not define in the act the limits of the "maternity" and "infancy" for which it so generously manifested such solicitude.

Admittedly, the term "maternity" is susceptible of a broad interpretation. Funk and Wagnall's New Standard Dictionary of the English language defines it as "the state of being a mother." It is legally defined as "the condition of a mother."<sup>2</sup> The term "infant," in its legal signification, embraces "any person who has not attained or arrived at the age of majority as prescribed by law. . . . At common law, a person under the age of twenty-one years."<sup>3</sup> If then, Congress used the terms "maternity" and "infancy" in their broadest connotations, any activity to promote the welfare and hygiene of every mother, regardless of her age and the ages of her children and the welfare and hygiene of all persons in their minority, can be justified. A fundamental rule of statutory construction, however, is that whenever the purposes of an act are not readily ascertainable from the act itself, recourse may be had to the circumstances surrounding its passage. To find out what circumstances surrounded the passage of the Sheppard-Towner Maternity Act it is necessary only to refer to the published hearings and to the discussions in the Senate and House of Representatives, on the bill from which that act was developed.

The Sheppard-Towner Maternity Act developed



from a bill introduced in the Sixty-fifth Congress,<sup>4</sup> but which did not come up for discussion on the floor of either the Senate or the House. The bill was again introduced in the Sixty-sixth Congress.<sup>5</sup> Senator Morris Sheppard of Texas, the sponsor of this bill in the Senate, in urging its passage, said:<sup>6</sup>

The need for this act is shown in the appalling number of deaths of mothers in the United States *due to causes connected with childbirth, and among infants under one year of age*. It developed at the hearing on this bill before the Committee on Public Health that 23,000 mothers died in this country from such causes in 1918, that nearly 250,000 infants less than one year old perished during the same year, and that most of these deaths were preventable.

Here the sponsor of the bill indicated clearly that its purpose was to reduce the number of maternal deaths incident to childbirth and the number of deaths of infants under 1 year of age. And the Senate then passed the bill. It failed, however, to pass the House and was, therefore, introduced in the Sixty-Seventh Congress.<sup>7</sup> Representative H. M. Towner, of Iowa, the sponsor of the bill in the House, testified before the Committee on Interstate and Foreign Commerce of the House, as follows:<sup>8</sup>

The origin of this bill is very briefly this: The Children's Bureau here in Washington, cooperating with other institutions, both public and private, interested in child welfare all over the United States, very early in their work came to a recognition of this very important and terribly tremendous fact, that there was in the United States an unusual, *a disgraceful amount of mortality arising from maternity cases, both as to the mothers and the children of the country*.

Representative Towner, then, was pleading for the passage of the bill because of the "mortality arising from maternity cases." Representative Towner asked the committee to hear Dr. S. Josephine Baker, director of the Child Hygiene Division of the New York City Board of Health. Dr. Baker offered for the consideration of the committee two exhibits.<sup>9</sup> One related to maternal mortality and bore the following legend: "The United States lost over 23,000 women in 1918 *from childbirth*. We have a higher maternal death rate than any other of the principal countries.—Children's Bureau, U. S. Department of Labor." The other was entitled, "Infant Mortality Thermometer, Deaths *Under 1 Year of Age Per 1,000 Births*." Under this exhibit the following legend appeared: "Within the first year after birth, the United States loses 1 in 10 of all babies born. It ranks eleventh among the principal countries of the world. New Zealand loses fewer babies than any other country. Rates are for latest available years up to 1918. Children's Bureau, U. S. Department of Labor." This witness apparently was asking favorable consideration of the measure by the committee *because of the high death rate of infants under one year of age, and because of the large number of deaths of mothers incident to childbirth*.

The Senate Committee on Education and Labor in recommending to the Sixty-Seventh Congress that the bill pass said:<sup>10</sup>

It is believed by your committee that this legislation by the National Government is necessary and of an emergency character. It is intended to stimulate and aid the states to provide means for saving the lives of thousands of mothers and infants who are annually dying in our country for want of care and attention. It was shown in the hearings that in a single year 23,000 mothers died in *childbirth* and nearly 250,000 infants died *under one year of age*, and that most of these deaths were preventable. . . . One half of infant deaths occur within six weeks of birth and are due chiefly to the condition of the mother and the lack of proper care and attention during and following confinement. Maternal deaths and infant deaths from maternal causes are not decreasing, principally because mothers do not have the necessary care, advice, and assistance they need.

Statements of similar import are scattered throughout the hearings on the bill and throughout the pages of the *Congressional Record*. In the committee hearings, in the committee reports and on the floor of the House and Senate, emphasis was placed solely on the number of deaths of women incident to childbirth and on the number of deaths of infants under 1 year of age. These were the conditions that the proponents of the bill wanted to correct, and it was obviously for that purpose that the bill was enacted.

But however clearly Congress may have understood the purpose for which it legislated, the chief of the Children's Bureau and the Board of Maternity and Infant Hygiene apparently felt free in administering the law to extend its scope. An examination of plans for operations under the act brings to light some such extensions that seem difficult to justify in the light of the apparent purpose for which the act was passed. The following examples have been selected from plans submitted by the several states containing proposed activities under the joint federal-state funds for the fiscal year 1927. In each case the plans were submitted by the particular state agency administering the funds locally, and all such plans were stamped "Approved by Maternity and Infant Hygiene Board."

#### SOME ACTIVITIES UNDER THE SHEPPARD-TOWNER MATERNITY ACT

California, in plans submitted June 7, 1926, and approved June 25, 1926, made provision for the publication of three pamphlets during the year, one on small-pox vaccination, one on "immunization with diphtheria" and one on the handicaps caused by tonsils and adenoids.

Colorado, in undated plans, approved June 25, 1926, provided for special work with the boys and girls clubs at the state fair.

Delaware, in plans submitted June 7, 1926, and approved June 25, 1926, outlined an extensive toxin-antitoxin campaign for the rural districts. Reference was made to the publication of literature on diphtheria, typhoid, milk, diarrhea-enteritis and diet for children from 1 to 4 years of age. Quoting from the plans submitted: "Since April, 1926, we have been conducting an extensive toxin-antitoxin campaign. A large number

of preschool children have already been immunized and it is our plan to continue the campaign until every community is reached. During the summer months a typhoid campaign will be put on."

Georgia submitted plans for furnishing free diphtheria toxin-antitoxin to clinics for the immunization of children under 7 years of age. Plans were submitted under date of Sept. 30, 1926, and were approved Nov. 4, 1926.

Idaho, in plans submitted Oct. 6, 1926, and approved Nov. 4, 1926, made provisions for the distribution of literature on "How to Correct Constipation in the Preschool Child."

The plans submitted by Indiana for the fiscal year 1927, bore the approval of the federal board as of June 25, 1926. These plans provided for cooperation with the department of immunology in advertising smallpox and diphtheria immunization as a part of health protection.

The plans of Iowa were undated, but were approved June 25, 1926. Provision was made for a dental clinician, a dental hygienist, and a nurse for advance work to conduct dental conferences for children up to 7 years of age, covering the care of teeth, with some actual demonstration of cleaning and repair work.

The budget submitted by Kentucky, under date of June 8, 1926, and approved June 25, 1926, provided for the following salaries: State health officer, \$1,000; director, \$3,600; assistant director, \$3,600; clinical instructor, \$1,800; chemist for water and milk supply, \$1,800; inspector of birth registration, \$1,500; educational instructor, \$900; six clerks, \$3,720; stenographer, \$1,500; bookkeeper, \$300.

Louisiana, on June 23, 1926, submitted plans for an intensive campaign among registrars and physicians for complete registration of birth, for dental examinations, with corrections of minor defects, for examinations of milk and water and for the examination of specimens for the determination of hookworms, other parasites and malaria. These plans were approved by the federal board, June 25, 1926.

The plans submitted by Maryland for the fiscal year beginning July 1 (no date) were approved July 27, 1926. The plans provided for a continuation of centers for child health work in the counties of Maryland and for an extensive system of examinations of preschool children. Plans were submitted for a survey of the crippled children in rural Maryland. According to the plans submitted, no distinct maternity center had been created, "although expectant mothers are seen in small numbers at child health conferences." Contributions were made to the nursing budgets in sixteen counties. Plans were submitted for the continuation of the dental service to preschool children throughout the year. "During last year," quoting from the plans, "this service has been considerably extended and following the preschool examinations, dentists in a number of instances have been sent with portable equipment to make the corrections found necessary."

The budget and plans submitted by Montana provided for the payment of a salary of a laboratory technician

from the joint funds. It was not contemplated that this technician should devote her entire time to Sheppard-Towner work. A letter from the division of child welfare of the Montana State Board of Health, July 27, 1926, explaining this item, bears the approval of the federal board under date of Aug. 19, 1926. The budget and plans had therefore been approved on June 25, 1926, subject to a question with respect to the laboratory technician.

New Mexico, in plans submitted for the fiscal year 1927, approved June 25, 1926, made provision for the survey of "all milk supplies in a few counties where it is possible to have adequate follow-up."

Plans for New York were submitted June 15, 1926, and approved June 25, 1926. The following excerpt is taken from the plans: "Orthopedic clinics. This consists of a traveling unit consisting of two orthopedic surgeons, \$4,500 and \$3,500, 11 field nurses, eight at \$1,800, one at \$2,000, two at \$1,500, and one muscle tester at \$1,320. This work is carried on in connection with the post-polio cases and such other general orthopedic cases as are referred to it by the various agencies. This work will be continued with the possible addition of three field nurses at \$1,800, for the year 1926-1927. Child Health Consultations. . . . A dental hygienist will be added to the unit at a salary of \$2,000, to examine the teeth of children coming to the consultations and give prophylaxis where indicated. . . . Post Graduate Medical Education. This service is carried on by the Board of Regional Consultants to this division, who comprise specialists in obstetrics and pediatrics. In the post graduate work, they have given courses of six and eight lectures each to all the county medical societies requesting them, and thus far some 30 or more have been given. Toxin-antitoxin. . . . In connection with the state-wide campaign to abolish diphtheria as carried on by the New York State Department of Health in cooperation with the State Charities Aid Association and the Metropolitan Insurance Company, it is planned for 1926-27 to assist in this campaign by urging the immunization of preschool age children in the child health consultations carried on locally under the Sheppard-Towner funds. As this will necessitate an extra day's work each time, special consultations for this specific purpose are urged, and we have accordingly budgeted for this work in the sum of \$5,000."

North Carolina, in plans undated, approved July 25, 1926, made provision for the administration of toxin-antitoxin to children of preschool age.

Ohio, in plans submitted June 15, 1926, approved June 25, 1926, included a provision for pediatrician fellowships, budgeting \$6,000 therefor.

Oklahoma, in plans and budget (both undated), approved June 25, proposed cooperation with the University Extension Department in postgraduate courses in pediatrics and obstetrics for rural physicians. The budget carried an item—"for special payments—\$4,000."

The plans submitted by Pennsylvania under date of June 11, 1926, approved June 25, 1926, provided for a diphtheria toxin-antitoxin campaign. The budget car-



ried an item of \$7,800 for twenty-six birth registration clerks, all payable from federal funds. Quoting from the plans: "Records are required to be kept at the present time of preschool and school age children so as to be able to know the number properly immunized at the expense of the Sheppard-Towner fund."

The plans submitted by South Carolina called for the payment from the joint funds of a salary for a milk technician, \$2,100. This item was first questioned and later approved by the federal board on July 22, 1926.

Virginia submitted plans and budget on June 24, 1926, and both were approved June 25, 1926. The plans provided for the expenditure of \$1,600 for scholarships for nurses. Definite health work was planned "emphasizing sanitation, malaria control, diphtheria prevention, and the lessening of infant mortality, stillbirths and maternal mortality." Conferences were to be arranged exclusively for the benefit of the preschool child and infants. The budget submitted provided for the following: Director, \$2,750; assistant director, \$2,500; supervisor of nurses, \$2,200; assistant supervisor, \$1,800; supervisor of midwives, \$2,000; supervisor of mothers, \$2,000; correspondence course secretary, \$1,320; three stenographers, \$1,200, \$1,140 and \$1,020; bulletin clerk, \$1,080; drug clerk, \$1,200 (all of the foregoing personnel being on twelve months' basis). Part time personnel was provided for as follows: Dental clinician (2 months), \$400; preschool clinician (2 months), \$400; extra help, \$303. Scholarships for public health nurses, \$1,600; \$15,000 was budgeted to take care of forty nurses in county nurse service.

#### SCHOOL AND COLLEGE WORK UNDER THE SHEPPARD-TOWNER ACT

That Sheppard-Towner money has been allotted to states for purposes recognized by the Federal Board of Maternity and Infant Hygiene itself, as not within the spirit of the Sheppard-Towner Act, is shown by the proceedings of the board as reported by the chief of the Children's Bureau. The report says:<sup>11</sup>

While the board agreed that the act was intended to promote the welfare of mothers and children during the first few years of life, it was recognized that some flexibility was necessary, especially in those states in which only school health work had been done. The plans of six of these states were accepted with the proviso that the approval of certain items, such as work with the school child and courses in the hygiene of maternity and infancy in girls' and women's schools, should not constitute a precedent for the approval of such items in subsequent plans.

The attempt to explain and excuse these expenditures is hardly sufficient to protect future appropriations under the act from abuse. If it had been lawful heretofore to expend Sheppard-Towner money for work with the school child and for courses in the hygiene of maternity and infancy in girls' and women's schools, it will remain lawful to make such expenditures so long as the unamended act is in force. The fact that the Federal Board of Maternity and Infant

Hygiene, as constituted on April 18, 1922, stipulated that the authorizing of such expenditures should not be regarded as a precedent for future expenditures of the same nature cannot prevent any subsequent board from taking a different view of the situation. The action of the board, taken presumably without objection by accounting officers of the Treasury Department, shows the multiplicity and breadth of the purposes for which Sheppard-Towner money may be applied, if future boards so elect.

#### AGE LIMITS IN THE SHEPPARD-TOWNER MATERNITY ACT

Too harsh criticism should not be directed against the federal officers charged with the administration of the Sheppard-Towner Maternity Act, because they allotted funds for the benefit of persons beyond the age of infancy, as that term is universally construed in health work.<sup>12</sup> Criticism should be directed rather against the uncertain terms of the act itself. The danger of a broad construction of such terms was pointed out in the course of debate in the Senate when the bill was under consideration, but no effective voice was raised in protest against it.

In the Senate, Dec. 16, 1920, the following colloquy occurred:<sup>13</sup>

Senator Thomas of Colorado: Mr. President: The word "infancy" has a legal definition, as the senator from Connecticut knows. It includes all those under 21 years of age. Does the senator think that it is possible under the terms of this bill that its provisions may be extended to all those under legal age?

Mr. Brandegee of Connecticut: "I think legally that would be possible, but I referred to that while the senator from Colorado was temporarily absent from the floor. . . . *Of course, I do not apprehend that any member either of the state or federal boards would extend aid to an infant of 20 years of age unless he were an idiot or somebody who could not take care of himself.*"

Mr. Thomas: "Of course, there are degrees between the extremes of birth and 20 years of age. Does not the senator think that it would be perfectly easy, in accordance with the terms of this bill, to apply its provisions to young children of four, five, six or seven years of age,?"

Mr. Brandegee: "Yes, and I said that on principle, if the object of the bill is to guarantee that future citizens of this country shall be able-bodied and sound in mind and body, it is not enough merely to provide that they shall be safely and sanitarily brought into the world."

The possibility that federal officers might undertake to construe the Sheppard-Towner Maternity Act as an act "to guarantee that future citizens of this country shall be able-bodied and sound in mind and body," and not merely an act "for the promotion of the welfare and hygiene of maternity and infancy," as the title of the act implies, was recognized by Senator Brandegee, although he endeavored to make light of the danger. In the course of the debate, the senator said:<sup>14</sup>

Of course, "infancy" as alluded to in this bill, is un-

determined in duration, unless it be the time which the law gives the word "infant" which is until he is 21 years of age. If all the boys in the country are to be cared for by the government until they get to be 21 years of age, the other people will have to abandon the eight-hour law, and work harder than they ever worked before to support them. This is an extreme case, and I do not suppose any federal board would so rule.

But the bill was not amended so as to include any statutory prohibition that would prevent a federal board from so ruling. Everything was left to what was "supposed" to be the case. There the matter now stands.

### BARTER OF CONSTITUTIONAL RIGHTS

It has been pointed out elsewhere<sup>15</sup> that the policy underlying the Sheppard-Towner Maternity Act is calculated to justify or excuse the establishment of a system of federal subsidies whereby the government at Washington may induce the states to yield to it their constitutional rights to supervise and control intrastate activities in the field of maternal and infant hygiene. In this article it is pointed out that mere administrative practice under that act may enlarge federal domination so as to make it cover intrastate activities seemingly remote from those named in the act. The act seems to have been intended only to provide funds through which federal officers could dominate health activities immediately related to maternal and infant hygiene. Here one can see from official records how funds so provided have been used to acquire the right of supervision and control over special work for the boys' and girls' clubs at the state fair in Colorado; over the activities of the state health officer in Kentucky; over the examination of milk, of water and of specimens submitted for determination as to the presence of hookworms and other parasites in Louisiana; over a survey of crippled children in Maryland; over the activities of a laboratory technician in Montana; over a survey of certain milk supplies in New Mexico; over orthopedic clinics and certain postgraduate medical education in New York; over pediatrician fellowships in Ohio; over the activities of a milk technician in South Carolina; over scholarships for nurses in Virginia; and so on.

That the activities named are activities in which the states may properly engage, no one can deny. That such activities within a state should be supervised and controlled by federal officers may well be denied. That federal officers do supervise and control intrastate activities in the fields named, to the extent that such activities are paid for from Sheppard-Towner funds, is clear; otherwise the federal officers charged with the expenditure of such funds would be derelict in their duty to see that such funds are expended in accordance with law and with the plans that have been approved by them. The act itself requires the approval by federal officers of plans for any intrastate health activities toward the expense of which the federal government is a contributor, before the state can

enter such activities; and when such activities are under way, they are by law subject to the supervision and control of federal officers, who may penalize any state even to the extent of the withdrawal of federal funds, if the work is not being done in a way that meets the approval of such officers. And the supervision and control that may be made the basis for the withdrawal of federal funds covers not only work paid for from such funds, but also the coordinated state work paid for from state funds.

The constitution gives to the federal government almost unlimited taxing power. It gives to the states almost unlimited power to protect and promote the health of their people, free from federal interference. The Sheppard-Towner Maternity Act constitutes a device through which the right of the federal government to tax and the right of the state to control its own health activities may be bartered one for the other. The federal government, through its taxing power, collects money either directly or indirectly from the people of the several states. Through the Sheppard-Towner Maternity Act it agrees to pay back to the people of the states, on certain conditions, some or all of the money thus taken, and in some cases more. By the return of such money, the federal government offsets or negatives the collection of it by taxation in the first instance. But the only condition on which the federal government will return the money thus collected from the people of the states is that the states, in return therefor, cede to the federal government their constitutional right to supervise and control health activities within their own borders, free from federal supervision and control. If our government is to continue as a dual government, on its present constitutional basis, it seems essential that neither Congress nor any state legislature sanction any such system of barter. It is vital, however, that if Congress or any state legislature sanctions any such barter, the limits within which it may be carried on be clearly defined by the legislative body itself. They must not be left to be determined by federal boards, bureau chiefs or other administrative officers.

### REFERENCES

1. 42 Stats. 135.
2. 39 Corpus Juris 1388.
3. 31 Corpus Juris 986.
4. H. R. 12634; S. 4782.
5. H. R. 10925; S. 3259.
6. Congressional Record, Sixty-Sixth Congress, third session 60:417 (Dec. 16) 1920.
7. H. R. 2366; S. 1039.
8. Hearings before the Committee on Interstate and Foreign Commerce of the House of Representatives, Sixty-Seventh Congress, first session, on H. R. 2366, p. 7.
9. Same, pp. 16 and 17.
10. Committee on Education and Labor, Sixty-Seventh Congress, first session, report 61, accompanying S. 1039.
11. The Promotion of the Welfare and Hygiene of Maternity and Infancy. The administration of the act of Congress of Nov. 23, 1921, for the period March 20, 1922, to June 30, 1923. Bureau Publication No. 137, p. 6.
12. "The infant mortality rate is the number of deaths of infants under one year of age per one thousand born alive,"



Ninth Annual Report, Bureau of Census, Department of Commerce, 1923, p. 30.

13. Congressional Record, Sixty-Sixth Congress, third session 60:468 (Dec. 16) 1920.

14. Congressional Record, Sixty-Sixth Congress, third session, 60:466 (Dec. 16) 1920.

15. Woodward, W. C.: The Sheppard-Towner Act: Its Proposed Extension and Proposed Repeal, Bull. A. M. A. 21:126-133 (May) 1926.

### FEDERAL LEGISLATION OF INTEREST TO THE MEDICAL PROFESSION LIKELY TO COME BEFORE THE SEVENTIETH CONGRESS

Matters of interest to the medical profession that are likely to be considered by the Congress that assembles in Washington on the first Monday in December are scheduled below, with a statement of the policy of the American Medical Association with respect to them. Other matters that may come up for consideration by Congress and the policy of the Association in regard to them will be made known through the pages of the *Journal* or otherwise, as occasion arises. The cooperation of organized medicine and of every physician throughout the country in carrying into effect the policies of the Association with respect to all such measures is necessary, if success is to be attained.

The matters and policies set forth should be brought to the attention of senators and representatives before they leave home to take up their congressional duties in Washington. The personal contacts thus made will add force to anything that may be done later by letter or telegram. The American Medical Association, however, asks no pledge nor promise from any senator or representative with respect to his attitude toward any legislation whatsoever. It asks only that he keep an open mind with respect to matters in which medical men are interested until after the profession has had an opportunity of stating its views and its reasons for them.

1. *Safeguards in Promulgation of Regulations Under National Prohibition Act and Harrison Narcotic Act.* Legislation will be proposed to insure notice to all interested parties of every regulation proposed by the Commissioner of Prohibition under the National Prohibition Act and the Harrison Narcotic Act. Such legislation will provide for an opportunity for the medical profession to be heard before the promulgation of any such regulation, for adequate notice of promulgation and reasonable time after promulgation for adjustment of affairs so as to comply with new requirements, and for publication of all such regulations so as to make them readily available to the profession throughout the United States. As the law now stands, the Commissioner of Prohibition can lawfully promulgate a regulation without notice to anyone of his intention to do so, and it may take effect from the moment of its approval by the Secretary of the Treasury. The law now in force does not require that it be published at all. The proposed legislation has the approval of the House of Delegates of the American

Medical Association and of various state medical associations.

2. *Sale of Dangerous Cosmetics, Etc.* Legislation will be proposed to safeguard the people against the manufacture, distribution, and commercial use of dangerous cosmetics, etc. Such legislation originated in the Section on Dermatology and Syphilology of the American Medical Association and has received the approval of the House of Delegates. It calls for supervision and control by the federal government of interstate and foreign commerce in cosmetics, etc., and of the manufacture and sale of such articles in the district of Columbia and other places under the exclusive jurisdiction of the federal government.

3. *Federal Income Tax and Reduction of Traveling Expenses.* Legislation will be proposed to give physicians the right to deduct in the computation of their federal income taxes traveling expenses incurred in attending meetings of medical organizations. A similar right is now granted chemists, ministers, corporations, and, it is believed, business men generally. This matter has been called to the attention of the Congressional Joint Committee on the Revision of the Revenue Act. It is hoped that it may be adjusted without having recourse to legislation. Should legislation be required, however, the support of all senators and representatives will favor its enactment.

4. *Amendment of National Prohibition Act.* Legislation will be proposed to permit physicians to prescribe for patients in need of alcohol and alcoholic liquors such amounts as the attending physician believes necessary. The proposed legislation will provide for such reasonable restrictions as the Board of Trustees deems wise and best after a conference with the Commissioner of Prohibition. This proposed legislation has received the endorsement of the House of Delegates of the American Medical Association.

5. *Pay of Medical Officers in the Army and Navy Retired on Account of Disabilities Incurred in Line of Duty in the World War.* Legislation will be proposed, it is believed, to secure for medical officers who served in the temporary forces of the army and navy during the World War and who were disabled by injuries or diseases resulting in the discharge of duty, the same retirement privileges as are accorded to medical officers in the regular army and navy under similar conditions. Such legislation has received the approval of the House of Delegates of the American Medical Association.

6. *Medical, Surgical and Hospital Services for Veterans Suffering from Diseases and Injuries not of Service Origin.* Legislation may be proposed to perpetuate and enlarge the free medical, surgical and hospital services now given to veterans, rich and poor, for injuries and diseases not incurred in the line of duty. The World War Veterans Act of 1924 authorized the Director of the Veterans' Bureau to admit to hospitals under his control veterans of all wars, military occupations, and expeditions subsequent to 1897 without regard to the origin of their disabilities, so far as the needs of veterans suffering from injuries and disabilities of service origin might permit. As a

result, during the fiscal year 1925, there was an increase of 20 per cent in admissions to such hospitals, and on an average for every two veterans admitted for service-connected disabilities one veteran was admitted for non-service-connected disabilities. The announced building program of the Veterans' Bureau, however, plans not to reduce the capacity of its hospitals so as to provide only for veterans suffering from service-connected disabilities; it plans to maintain such hospitals on their present basis, thus perpetuating all beds now available for non-service-connected injuries and disabilities. This will allow, too, for an increase in the number of such beds, as the demand for beds for the treatment of service-connected injuries and disabilities will diminish, as time goes on. What the plan proposes is the maintenance and enlargement of the system of federal state medicine already begun under the World War Veterans' Act of 1924. The American Medical Association does not desire the diminution by even a single bed of the facilities necessary for veterans suffering from disabilities of service origin. But legislation that will provide and maintain, and even enlarge, at government expense, the capacity of the hospitals under the control of the Veterans' Bureau so as to provide for the free treatment of patients, rich and poor, suffering from injuries and disabilities in no way whatsoever connected with service, has been condemned by the Board of Trustees of the Association.

7. *Protection of Residents of the District of Columbia from Incompetent Healers.* Legislation will be proposed to drive incompetent, unlicensed practitioners of the healing art from the District of Columbia and to hinder their return. Through lax enforcement of the medical practice act now in force, and possibly to a certain extent because of inadequacies in it, a large number of unlicensed osteopaths, chiropractors and other healers have established themselves in the District of Columbia and are now engaged in the diagnosis of diseases and injuries. The situation is a menace to the health of all who reside permanently or temporarily in the District. The very number of such unlicensed persons makes it difficult to dislodge them, and various organized groups of irregular practitioners see the advantage of recognition by the Congress of the United States and exert their utmost endeavors to obtain it. At the request of the Medical Society of the District of Columbia, the House of Delegates committed the American Medical Association to the support of an effort to obtain the enactment of a practice act for the District that will protect the people against incompetence and quackery. Congress, however, is the only legislature that the District of Columbia has. Every senator and representative throughout the United States is, therefore, a legislator for the District. It is for that reason that appeals should be directed to them for sane legislation for the protection of the people of the District.

8. *Sheppard-Towner Maternity and Infancy Legis-*

*lation.* It is rumored that legislation will be introduced to authorize the continuance of federal activities under the Sheppard-Towner Maternity and Infancy Act, after the expiration of the period to which such activities are now limited by law. The rumor may have no foundation, however, for it was widely understood when the life of the Sheppard-Towner Maternity and Infancy Act was extended by the Sixty-Ninth Congress that the proponents of such legislation would not ask that the policy embodied in that act be continued beyond the time limit then set, June 30, 1929. If legislation is proposed to extend the life of the act beyond the time limit set or to embody the principles of the act in other legislation it should be borne in mind that the House of Delegates of the American Medical Association has gone on record as firmly opposed to the act and to the policy of the act.

9. *Prevention of Use of Dogs in Scientific Research.* The New England Anti-Vivisection Society has sent out a form letter announcing its plan to "introduce into the House of Representatives, at Washington, during the coming session, a bill for the exemption of dogs from vivisection." The letter requests the addressee to circulate an accompanying petition in support of the bill and to ask his representative in Congress to vote for it. The society alleges that the "International Conference for the Investigation of Vivisection, which now includes eighty-six anti-vivisection and humane societies," is sponsor for the bill.

Congress cannot directly restrict scientific research in any state. What Congress does, however, will be an important factor in determining action by state legislatures. The anti-vivisectionists are alive to this fact. They therefore seek legislation by Congress, for the District of Columbia and other places under exclusive federal jurisdiction, in order to establish a legislative pattern that the states may be induced to follow. Moreover, it has been frankly confessed on behalf of anti-vivisection interests that if a bill to prevent scientific research involving the use of dogs is enacted they will probably promote legislation to prevent the use of other animals for such research.

To prevent the enactment of legislation that will hinder scientific research in the District of Columbia and other places under federal control and that will be urged as a pattern for the enactment of similar legislation in your own state, it is important that you file with your senators and representatives immediately protests against the enactment by Congress of the bill now proposed by the New England Anti-Vivisection Society and against any similar legislation.—G. A. M. A. Bulletin.

#### DIPHTHERIA IMMUNIZATION

A letter from Dr. Ralph Sheldon, health officer of Lyons, Wayne County, states that over 1400 or 98 per cent of the children in that village have been immunized against diphtheria in the past four years. At a recent clinic 258 children received the third dose of toxin-antitoxin, ninety-nine being of preschool age.—New York State Department of Health.



## Correspondence

### NO LEGALIZED BIRTH CONTROL IN HOLLAND

*To the Editor:* Birth control advocates rarely fail to emphasize the statement that birth control practices prevail widely in Holland and are not only permitted by the government, but more or less encouraged on public grounds. It will, therefore, be of some interest to the medical profession to have the following authoritative statement from Dr. J. H. Van Zanten, Director of the Municipal Bureau of Statistics, Amsterdam, communicated to me on April 1 in response to an inquiry as regards the exact facts of the situation. Dr. Van Zanten writes me as follows:

"As to your remark about the 'birth-control' in this country, if you think that birth-control practices are not interfered with in Holland, I may as well tell you that in this respect you are ill-informed. I know this opinion is prevailing abroad, but it is wrong; on the contrary our Penal Code not only penalizes the procuring of abortion without medical indication and even the raising of expectations that abortion shall be procured, but also the public exhibition of preventive remedies and their commendation. Moreover, the Neo-Malthusian League has not succeeded in obtaining the royal consent on its articles of association.

"However, all this does not signify that limitation of births is not practiced here; on the contrary, in this respect our country may be put on a par with all other countries, perhaps with yours also, and the number of cases of abortion here is considerable too, though it is inferior to that of Germany and Russia.

"The effect of the practice of birth-control is the same in this city as in any other town, but here as well as everywhere else it escapes observation. As a matter of fact, our high surplus of births is exclusively due to our low death rate, which again may be attributed to our excellent hygienic measures."

FREDERICK L. HOFFMAN.

Prudential Life Insurance  
Company of America.

Newark, N. J., April 11, 1927.

### TWO DEATHS FOLLOWING ADMINISTRATION OF TYPHOID VACCINE

The *U. S. Naval Medical Bulletin*, July, reports the death of a 17-year-old recruit at San Diego following his third inoculation with antityphoid vaccine. The facts appear to be that the boy developed a severe reaction a few hours after inoculation, and died in about fifteen hours. A necropsy was performed, and an investigation made by a court of inquiry. The observations at the necropsy were general cyanosis; contractures of hands and feet; congestion and slight edema of the brain, and congestion of the lungs, liver, spleen and kidneys; the blood had not clotted twelve hours after death. The primary cause of death was charged as anaphylaxis, typhoid vaccine. Testimony before the court seemed to show that the boy had been quite sick after his second injection; that he was undersized, frail and in poor physical condition; that he was given a full cubic centimeter dose and that no definite provision was made for watching the effect. The testimony indicated also that a 10 cc. syringe was used and, although the hospital corps man who made the injection stated, positively, that he did not inject more than 1 cc. this, the report states, must be regarded as unsafe practice. The vaccine was straight typhoid vaccine, the navy having discontinued the use of triple vaccine in 1924. Another death reported is that of a sergeant, aged 35, who died after the third of a series of antityphoid inoculations, which were given seven days apart. He had not had any discomfort after the preceding injections. He died in about eight hours after the inoculation after developing a temperature of 102, and after having been seen by a medical officer twice in the evening. This case is recorded in the vital statistics of the navy with the primary cause of death as "myocarditis and valvular heart disease, combined lesions, aortic and mitral," and the secondary cause as "acute dilatation of the heart." The bulletin states that it is, of course, possible that the vaccine was the direct cause. A necropsy was made. The sergeant had been in the marine corps fourteen years, and had completed a course of antityphoid vaccine in 1912 and another in 1921. The two cases cited are the only ones in the naval service in which death could, in any manner, be attributed to antityphoid inoculations since November, 1924, when the use of straight typhoid vaccine was resumed.

### KNEW HIS SYMPTOMS

Nearly every young doctor has had experience with patients like the old fellow of sixty who had been a grumbler all his life and had long made a practice of changing doctors on the slightest provocation. Recently he called in a young physician who had gained a considerable reputation.

He was telling the doctor what he thought was the matter with him when the doctor ventured to disagree.

"I beg your pardon," said the patient, with a haughty shrug: "It isn't for a young man like you to disagree with an old and experienced invalid like me."—*Patchwork*.

## Original Articles

### MORE ACCURATE METHODS OF MEASURING X-RAY DOSAGE\*

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During more recent years, that is during the past ten years, x-ray therapy has made remarkable advances, more particularly in the treatment of the more deeply seated lesions and especially carcinoma. The "X" or unknown ray is now quite well known and understood. It had been known for some time that there is considerable variation in the wave length of x-rays and that shorter and shorter wave lengths of x-ray can be developed by increasing the voltage impressed upon the x-ray tube. It has also been known for many years that the longer wave lengths have little penetration while the shorter wave lengths have greater penetration and now, with improved methods of producing very high voltages and better constructed tubes to withstand these high voltages, x-rays of very short wave length and therefore greater penetration can be produced in large quantities. It is also common knowledge that by heavier filtration it was possible to filter out the longer, allowing the shorter wave lengths to pass through the filter and an almost pure bundle of short x-rays of great penetration reaches the body of the patient.

By extensive and elaborate experiments, both physical and biological, it has been conclusively shown that these shorter wave lengths of x-ray, possessing a high degree of penetration are available for use on more deeply seated lesions, even eight or ten centimeters below the surface, and that at this depth sufficient x-ray can be delivered to the lesion through several portals of entry (utilizing the "cross-fire" principle) to produce a profound therapeutic effect without damaging the over-lying skin, that is, the production of x-ray burns of greater or lesser degree.

It is not only necessary to develop x-rays capable of producing a profound biological effect upon tissue, both normal and abnormal, but equally necessary to measure accurately the dos-

age of these rays in order to avoid on the one hand, over-dosage with resultant serious damage, and on the other hand under-dosage with resultant ineffective treatment.

Because of our inaccuracy in dosage methods, the errors of *omission*, on the part of the radiotherapist, I feel, have far outweighed the errors of *commission*. There is always the danger, when in doubt, in using such a powerful weapon as the x-ray, to undertreat rather than overtreat; in other words "to play safe" and the results necessarily achieved by x-ray therapists have fallen far short of the reasonable possibilities.

The problem of penetration has been quite satisfactorily solved. We now feel that x-rays developed at two hundred thousand volts are of sufficient penetration for practical application and economic production with but little to be gained by higher voltage, greater penetration at far greater cost both in tubes and apparatus. Filtration with five-tenths m. m. of copper, in this country at least, has come to be quite generally accepted as most suitable.

The problem of the measurement of x-ray dosage, however, is by no means so well worked out or so well established on a practical basis. There is still room for much work to be done. Sufficient work has been done though to warrant me in saying that methods of accurate continuous measurement of x-ray are now available and that the units of dosage of x-ray administration are more accurate physically and biologically than the units of measurement of diphtheria antitoxin, and that with these improved methods it is practical and safe in the hands of skilled workers to utilize x-ray therapeutics to a greater extent and with far greater effectiveness than heretofore. However, many laboratories, hospitals, and x-ray workers still cling to the older extremely crude and inaccurate methods of dosage measurement. It is the purpose of this paper to stimulate a greater interest along this line. It may be well to review the various methods of measurement of dosage that have been used in the past.

*Photographic Method.* The first method to be used was the photographic method in which the blackness produced on a photographic film by x-rays, as compared with a standard was used. This method, to quote Mackee<sup>1</sup>: "The Pastile Method as well as other practical methods of

\*Read before Section on Radiology, Illinois State Medical Society, Moline, June 1, 1927.



quantity estimation gives us but a rough idea of the intensity of the primary beam."

Bachem<sup>2</sup> also states: "The method involves many sources of error. The results obtained are not very accurate or reliable. For the calibration or comparison of different roentgen apparatus the method is entirely unsuitable." It has been clearly shown that these photographic methods developed by Kinboeck, Holtzknecht, Sabouraud, Noiree and others have an error of greater than fifty per cent. The factors concerning the emulsion, the thickness of the emulsion on the film, the developer, its temperature, concentration, and the time of developing are all such important factors in determining the degree of blackness of the film of both the standard and the film for comparison, sources of error so great that this method is extremely inexact as well as time-consuming and laborious.

**Selenium Cell.** Another method which has been used for measuring the x-ray dosage, more particularly in Europe than in the United States, is the Selenium Cell, the method of Furstenaus<sup>3</sup>, the so-called "Furstenaus Intensi-meter." This consists of a selenium cell connected by two wires about fifteen feet in length to a battery and milliamperemeter. The selenium cell is placed between the x-ray tube and the body of the patient at a point where the intensity is to be measured. The x-rays, passing through the selenium cell to the body of the patient, change the penetration of the selenium cell to an electrical current; the degree of change being measured by the milliamperemeter. This instrument supplies a simple continuous method of measurement of the passage of x-rays, but unfortunately the various intensimeters show marked differences between each other and the same instrument slowly changes with time and in the course of treatment is capable of marked changes or "fatigue." Most of the intensimeters I saw in European laboratories and x-ray institutions were shoved back on an out-of-the-way shelf gathering dust.

**Milliampere-Minute Method.** The most common method of measurement of x-rays used in this country, in fact I might say almost universally used in America, is the indirect or electrical method—the milliampere-minute method. By this method the various electrical conditions under which the x-ray tube is activated are stand-

ardized and it is *assumed* that if these standard electrical conditions are used a standard type of x-rays of definite quantity and quality will be produced. While theoretically this is true, practically nothing could be further from the truth as a series of tests and experiments in my hands and in the hands of others has clearly shown.

In this method it is *assumed* that if the tube is operated at definite voltage using a definite number of milliamperes of current for a given length of time through a filter of standard thickness at a standard distance on a field of standard size a standard dose of x-rays will be delivered. Comparing the length of time to produce a biological effect upon the skin (an erythema of the first degree) it has been found that the number of milliampere-minutes necessary to produce this biological effect may vary as much as one hundred and fifty per cent. between different laboratories and hospitals. The factors used in this method and the sources of error are even greater than those found in the use of the photographic method of dosage measurement.

These factors are as follows:

1. Transformer.
2. X-ray tubes.
3. Filters.
4. Distance.
5. Voltage.
6. Milliamperes.
7. Size of field.

In the appended table, No. 1, taken from Arens & Beets<sup>4</sup> it is clearly shown that transformers of different makes vary greatly in their ability to produce x-rays.

MACHINE	FILTER CU. AL.	TREATMENT	
		TIME M. A. MIN.	TOTAL DOSE E. UNITS
A	.78	720	1700
B	.75 1	600	2100
C	.75 1	540	2000
D	.83 33	500	1600
E	.34	490	1850
Deviation, 47%			31%

The same thing has been shown by Chamberlain & Newell<sup>5</sup> who state that "High Voltage roentgen therapy machines differ as much as two times in their roentgen ray output per milliampere-minute even when crest kilovolts, filter, distance, and area of mass radiated are the same."

While x-ray therapy tubes are quite constant in their qualities when they leave the factory, having an error of only two and one-half to three per cent. above, or below the normal when new, with continued use they decrease remarkably in

their efficiency and while voltage and milliamperage or all other factors remain the same, the x-ray tubes may drop as much as forty per cent. in efficiency without the operator being made aware of this fact. This also is shown by some test made by Arens & Beets,<sup>4</sup> Table No. 2.

TABLE 2

TUBE NO.	DISCHARGE TIME	DEVIATION	PER CENT OF
	ELECTROSCOPE (MEAN)	FROM MEAN	DEVIATION FROM MEAN
NEW TUBES			
2U3027	23.15	+ .60 secs.	2.8%
2U2949	22.16	— .39 secs.	1.8%
2U2763	22.53	— .02 secs.	0.1%
V1595	22.00	— .55 secs.	2.4%
2U2857	22.94	+ .39 secs.	1.8%
OLD TUBES			
Standard	25.24	00 secs.	0.0
2U2553	24.02	— 1.22 secs.	4.8%
Y950	32.15	+ 6.91 secs.	27.5%
2U2622	27.38	+ 2.14 secs.	8.5%
Y1152	34.53	+ 9.29 secs.	36.7%
2U2652	23.07	— 2.17 secs.	8.6%
V906	31.28	+ 6.04 secs.	23.9%

They have demonstrated on a series of old and new tubes that five new tubes had a variation of less than three per cent., while a series of six old tubes revealed a deviation of as much as thirty-six per cent. between each other and the standard new tubes, a source of error certainly too great to be ignored.

These same authors have also pointed out that there is considerable variation in the thickness of filters as furnished by the manufacturers. To quote Dr. Arens<sup>4</sup> again: "Here recently in order to get some idea of conditions we wrote to six manufacturers asking each to send us quarter, half, three-quarters, and one millimeter copper filters of certain size. It was just a little bit surprising when we came to measure up some of these filters, especially the half millimeter size, to find that they vary from thirty-five to fifty-seven hundredths millimeters in thickness"—a variation in thickness of sixty-three per cent.

Distance is a factor in x-ray dosage that is extremely important since the quantity of x-ray delivered to a given surface area varies as the square of the distance—the Square Distance Law. A difference of one or two centimeters in distance, while apparently unimportant, makes for great differences in the surface dose and the depth dose as well. I cannot see how it is possible with some of the cumbersome couches and overhead heavy-lead lined cylinders to measure the distance from the tube to the patient with sufficient accuracy both with regard to direction and distance. While some of these pieces of apparatus

may make for greater protection and ease in operation they certainly affect the accuracy of application with regard to distance, a most important factor.

Voltage is most important since it affects both the quality and quantity of x-ray produced. Most operators using high voltages operate their tubes at 190,000 to 200,000 volts and are equipped with standard accurate sphere gaps for making voltage determinations—it has long since been shown that point to point spark gap measurements are too inaccurate for use in x-ray therapeutics. While most up-to-date properly equipped x-ray departments are thus equipped with sphere gaps for easy rapid frequent voltage determinations it is not practicable to determine the voltage at intervals of five or ten minutes throughout the treatment period. However, unless this is done, under the conditions under which I operate, at least, and which are quite likely no different from the conditions under which other people throughout this section of the country are compelled to operate, considerable variation in the voltage may take place from time to time with a consequent marked variation in quantity and quality of x-ray output (certainly as much as twenty-five to thirty per cent.) without any change whatsoever being shown by the milliamperimeter. Constant reading voltmeters attached to the primary of the transformer introduced to overcome this source of error are notoriously inaccurate and not to be relied upon.

With regard to the milliamperage. With two meters in series the variation in one is constantly checked by the other and under present day operating conditions variability in milliamperere meters need not be a source of error.

With care in measuring the field and marking this area on the skin of the patient the size of the area radiated need not make for inaccuracy. However, this short discussion, I believe, is sufficient to demonstrate that the so-called milliamperere-minute method of x-ray measurement is not to be relied upon for dosage determination. No wonder the x-ray operator wants to "play safe!" But what about the patient that receives inefficient and inadequate treatment?

*Biological Method.* Another method that has been used extensively in the measurement of the dose of x-ray is the biological one or the determination of the erythema produced on the skin of



the treated individual. The determination of this "first-degree burn" or erythema is difficult, because so much depends upon the degree of redness, the length of time before its appearance and the subsequent amount of tanning and scaling.

Seitz & Wintz<sup>6</sup> define the unit skin dose as "the quantity of radiation which eight days after exposure produces a slight hyperemia and four weeks after a slight tanning of the skin."

Friedrich has said the limit of variation in the normal skin to this erythema is about twenty-five per cent. Leddy & Weatherwax<sup>7</sup> further state "in the literature there seems to be no agreement on the degree of redness an erythema should embrace. It appears to be a purely relative term depending upon the judgment of the radiologist making the observation. It seems quite improbable that a scale of erythema value, comparable to the hemoglobin scale for example, would have any practical significance, for the problem of the obviation of normal skin pigment in the estimation of redness due to radiation, is one not easy of solution. \* \* \* Observations made on a sufficiently large group of patients enable us to say that there is a maximum variation of at least fifty per cent. in the time in which a reaction of normal skin definable as an erythema can be produced with roentgen rays." They further conclude "the erythema skin unit dose is a flexible arbitrary inaccurate standard. Dosimetry based on it has a relative value individual to the judgment of the radiologist. In reporting technique in therapy, full data should be given until a definite standard is established."

It has further been shown by other workers that the erythema dose of the French is almost double the erythema dose used by the Germans.

*Ionization Method.* The method which is the most exact that we have at our disposal is the direct or ionization method. This depends upon the fact that x-rays in passing through a gas, such as the air, ionize the gas separating the gas molecules into positive and negative ions. If x-rays are allowed to act upon a gas or air in a closed chamber the gas or air becomes ionized in direct proportion to the amount of x-rays passing through the chamber. As is commonly known, air under ordinary conditions is a dielectric and does not permit the passage of extremely small electrical currents. Therefore, if an electrical current is passed through a closed cham-

ber of ionized air the amount of current that can be passed is directly proportionate to the amount of ionization and since this ionization is in direct relation to the amount of x-ray produced the measurement of the electrical current becomes a direct measurement of x-rays.

Various instruments have been devised and perfected utilizing this principle and today we have instruments available by which we are capable of measuring directly the units of x-ray produced by this method.

One of the most important of these various instruments that has been devised is the iontoquantimeter invented by Professor Friedrich of the University of Freiberg, Germany.

This instrument consists of a small chamber of one cubic centimeter capacity with a central electrode very carefully insulated. This electrode is connected to an electroscope by a wire through a very carefully insulated cable. With the production of x-rays the air in the small chamber is ionized and permits the passage of a current, which slowly discharges the electroscope, and the movement of the needle of the electroscope over a certain length of scale in a given time determines the amount of ionization current and therefore a direct reading of the amount of x-rays passing through the chamber. This, and other instruments of like character, can be standardized against a standard instrument and we have available at this time a standard unit of x-ray dosage (the roentgen unit) or what is commonly called the R unit of the German Bureau of Standards.

Several physicists in this country possess iontoquantimeters or other instruments of like character standardized against the instrument of the German Bureau of Standards and are capable of determining the R units per hour produced by an x-ray equipment.

Dr. Otto Glasser of the Post-Graduate Hospital of New York and Dr. Albert Bachem of the X-ray Department of the University of Illinois Medical School, Chicago, both highly qualified physicists, are prepared to make such measurements and standardizations.

It is no longer necessary to speak of x-ray dosage in terms of the extremely inaccurate "milli-ampere-minute" or "erythema time" but it is possible to speak of *units* of roentgen dosage, R

units, in the same way we speak of units of diphtheria antitoxin.

The iontoquantimeter and the electroscope are extremely valuable instruments but they have the drawback of being extremely delicate and subject to changes induced by weather conditions and also because it is not very practical to take repeated measurements throughout the course of a treatment. I have an iontoquantimeter made by Professor Friedrich of the University of Freiburg, Germany, and he has the reputation of making the very best instrument of this type. However, on checking this instrument with radium (which as you know furnishes a constant unchanging source of radiation) over a period of sixty days under varying weather conditions it was found that the readings of the instrument varied as much as sixteen per cent. above and below the normal. Therefore, we can not consider this instrument reliable unless checked daily with radium to eliminate this source of error. Sixteen per cent. variation in the practical administration of dosage cannot be dismissed from the mind as being unimportant.

The instrument that I wish to present at this time before this Society is one that utilizes the ionization principle of direct measurement of x-ray production but instead of having the ionization chamber connected with an electroscope (which is influenced more or less by weather conditions as stated in the preceding paragraph, and with which measurements can be made only at intervals) this instrument, utilizing the galvanometer principle, makes it possible to measure the dose continuously throughout the course of the treatment. In other words the x-ray operator knows all the time in terms of roentgen units per hour exactly how much x-ray is being administered to his patient. He is not dependent upon voltmeter or milliamperimeter and not at the mercy of any of the sources of error that have been discussed. Any variation in line voltage, with its subsequent increase or decrease in x-ray output of the tube, is instantly noted and it is absolutely impossible to treat a patient without the proper filter—a very decided advantage.

The instrument that I have in use at the Illinois Valley Hospital, Ottawa, Illinois, has been in constant use during the past two years and I am frank to say that it has been checked and rechecked repeatedly by all the methods that are known for determining accuracy and it has been

quite constant in its performance.

This was worked out with the assistance of Mr. H. N. Beets, formerly of the Department of Physics, University of Chicago, and now connected with the Department of Physics of the Eastman Company, Rochester, New York. It has given me a sense of security and sureness in operation that has made it possible for me to administer dosage with perfect safety that I would not attempt were I depending upon measurement with "milliampere minutes" or "erythema time" alone.

The idea utilized in this instrument is by no means new. The galvanometer principle has been used for years in the measurement of ionization produced by the radiations of radium, and preceding our use of it at the Illinois Valley Hospital it has been used by Weatherwax and Leddy at the University of Pennsylvania and Professor Duane in the Huntington Hospital, Boston, but the conditions under which they worked out their problem were somewhat different from ours. The only thing claimed in the way of originality is in overcoming certain technical difficulties arising from the fact that our therapy tube is operated in the air instead of in a lead lined rounded cylinder or through a hole in the wall from another room, and our problem at Ottawa was one of securing proper grounding of the ionization chamber against the static electricity in the air of the treatment room.

The instrument consists of an ionization chamber attached to the tube stand under the x-ray tube. This is connected through a highly insulated cable that we took from an electro-cardiograph instrument, through a series of B. batteries giving a voltage of about three hundred and fifty volts sufficient to furnish more than a saturation current, through a shunt and knife switch to the ordinary type of student galvanometer manufactured by Leeds & Northrup of Philadelphia.

Our great difficulty was in properly insulating this electrical system against static discharges. We were, in fact, measuring extremely minute electrical currents in the presence of enormous static fields and discharges around the deep therapy tube operating at 200,000 volts with six M. A. of current. After many trials and tribulations, however, these difficulties were overcome.

A lamp throws a beam of light on the mirror of the galvanometer and from this mirror the



light beam is reflected to a scale. As the x-rays pass through the ionization chamber beneath the tube on their way to the body of the patient they produce an ionization current in the chamber which changes the saturation current, constantly placed on the galvanometer, thus causing a deviation of the galvanometer mirror and beam of light which is readily read on the scale. This instrument thus gives us a constant measurement of x-ray production during the whole time of treatment.

The things that it teaches are truly remarkable, that is to one who is not a physicist. The importance of slight variations in milliamperage, the great importance of slight variations in voltage and the importance of accuracy of measurement of distance make it desirable and in my experience at least, indispensable. With its use it is possible to duplicate exactly the treatment from day to day with an error of less than five per cent. as shown by actual measurements—certainly something that cannot be done with the ordinary methods.

In order to check this instrument to see that it is working constantly and persistently we have inserted in the electrical circuit a Cadmium Cell and by merely closing a switch through a water resistance we can cause a definite deviation of the beam of light due to current from this standard cell. We have found the instrument to be practically impervious to varying weather conditions, winter and summer, over a period of two years. The instrument is delicate and yet of sufficient strength to be of practical value for ordinary x-ray therapy work.

**Conclusions.** This instrument, utilizing the ionization method of measuring x-ray production with the galvanometer, instead of the electro-scope, gives us a constant accurate method of dosage measurement throughout the duration of treatment and with it has come a feeling of confidence in our methods and sense of security not possible with less accurate and inexact methods of dosage measurement.

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#### DISCUSSION

Dr. E. G. C. Williams, Danville, Ill.: I think of all the things we have to do with the measurement of the dosage is one of the things most important now. There are hardly any two of us working with the same idea of dosage. Those of us who have been measuring dosage over the past few years appreciate the variation in measurement and the output of the tubes. The tube I am using at present, if run at the condition in which it was first placed in the service, is delivering only about forty per cent. of the amount of x-ray it did at first. In order to overcome this, we are having to increase the time, rate, milliamperage or raise the voltage to bring this up to the standard, which brings in the question of effective wave length.

We feel the quality of x-ray produced at 200,000 volts and with a heavy filterage, is different from that produced at 120,000 voltage. With accurate measurement in measuring the x-ray output of the tube, the next step is to have a simple way of measuring effective wave length, so we can say we are delivering 1,800 E unit or so many R units at a certain effective wave length. When we reach that place, we will be approaching absolute accuracy in x-ray dosage.

I am sorry we have not more time to get into a general discussion of this, because I think it is one of the most important things we have to deal with in this program.

Dr. R. T. Pettit, Ottawa, Illinois: I do not think there is anything further I can say except to say I think that is the thing we need, is the statement of our dosage measurement in R units at a definite wave length and the method of determining this latter is quite simple by the method of Dr. Duane of Boston.

I think now we have methods by which we can administer this therapeutic agent with just as great a degree of accuracy and certainty as in any pharmacological problem. By modern methods we have overcome a thing which has most certainly been a handicap to the proper therapeutic use of the roentgen ray.

#### AN ETHICAL CONSIDERATION OF THE INDICATIONS FOR CESAREAN SECTION\*

GILBERT FITZ-PATRICK, M. D., F. A. C. S.

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There are two striking features in the literature of recent years regarding cesarean section: First, we have constantly increasing reports of the operation having been successfully performed

\*Presented at a joint meeting of the Chicago Medical Society and the North Side Branch, Nov. 2, 1927.

for conditions which ordinarily would indicate little or no obstetrical difficulties, that is to say, that the indications for cesarean delivery have been so widened that the operation is being done for the most trivial complications of pregnancy. The second thing that strikes one in looking through the literature is that cesarean section, as an obstetrical procedure, is being abused. For many reasons, some of which I shall touch on later, the art of obstetrics is being neglected and we are in danger of having this specialized department of medical practice becoming an adjunct of general surgery.

We seem in fact to be approaching the condition when the birth-canal as such is to be regarded, like the appendix and tonsil, as an aberration of Nature or, as Findlay<sup>1</sup> puts it, in which the surgeon views the natural birth passages as a makeshift exit to be used when the surgeon is otherwise engaged.

Now if it is the mature point of view of obstetricians in general that most of the older operative methods of midwifery should be discarded in favor of cesarean section and that, quite apart from technical considerations, the best interests of mother and child and of human welfare are thus secured, then there could be no valid objection to the great extension of the employment of cesarean section but one of the things we have to inquire into is whether this is the mature point of view of obstetricians.

That the cesarean operation is being widely executed with but little restriction there can be no doubt. Polak and Beck<sup>2</sup> say that the operation is being performed daily on patients who present no real obstetrical indication for it, simply because it is the most convenient way to deliver the baby. De Normandie<sup>3</sup> has collected the statistics of cesarean section in the Massachusetts hospitals. He says that these figures vary from 3/10 of one per cent. in one hospital to 18 per cent. in another. The figures can mean but one thing that some physicians are performing cesarean section whenever they want to, irrespective of all real indications. Williams<sup>4</sup> remarks that the operation is being abused in two ways: First, that it was employed unnecessarily; secondly, that it was not always employed at the time of election. He was forced to the conclusion that in many parts of the country the mere diagnosis of a contracted pelvis, irrespective of

its degree, is considered a satisfactory indication for operation in ignorance of the fact that from 75 to 80 per cent. of all women with contracted pelvis will deliver themselves spontaneously if given the opportunity. Newell<sup>5</sup> states that cesarean section is being performed indiscriminately by surgeons who have been called in by the attending physician or midwife who, after several hours of watchful waiting, decide the case is one of protracted labor and the surgeon immediately agrees that section is the delivery of choice.

The *British Medical Journal* in an Editorial<sup>6</sup> says that the very ease and safety of cesarean section under modern conditions is leading to its abuse. There is the danger of its coming to be regarded as a sort of panacea for all obstetrical ills. This editorial quotes Newell, the Professor of Clinical Obstetrics at Harvard, as saying:

At the present time it (Cesarean section) is the most abused obstetrical operation, being performed by comparatively untrained surgeons on patients who present no real indication for it under conditions which render it an exceedingly dangerous procedure. It is not at all unusual at the present time to see patients who have been subjected to cesarean section for no apparent reason, as far as physical examination shows, and the only logical conclusion seems to be that the operative indications have been a slow though normal labor which the attendant has hastened to end in the manner easiest for himself, though often not best for his patient.

It is not alone that cesarean section is being performed with only far-fetched indications, but I believe that by a certain class of operators the operation is being advised and executed merely on the ground that it avoids the pains of normal labor. For obvious reasons reports of this kind do not get into print, but we all know that such operations are being done. Indeed Findley<sup>1</sup> remarks that we learn from our Boston friends that the pampered society woman who is not equal to the demands of labor should be spared the exhaustive results of labor upon her nervous mechanism by cesarean section. Paddock<sup>7</sup> also says that sometimes the wish of the patient to have her baby in this way is considered an indication and that obstetricians boast of rather than conceal the number of these operations.

The question of elective cesarean delivery in so-called neurasthenic women, who are constitutionally unfitted for child bearing, is a dangerous one. Who is to say what the precise conditions



are to qualify for this class? If, as seems to be the case, cesarean section is now being abused and unwarrantedly extended by certain practitioners, these would still be the very ones to consider a woman as "constitutionally unfitted for childbirth" when they wished to do so.

Unquestionably the tendency at the present day is to cut down the time necessary for normal birth processes. Even with a normal sized child in normal position and an ample pelvis with dilatable soft parts, unnecessary manipulations and the forceps are employed on the plea that the woman is thus spared unnecessary pains, but really because the obstetrician is hurried and short circuits physiological processes without due regard to the future interests of his patient.

Now no obstetrician denies that there are certain absolute indications for cesarean section, when no other operative method will take its place, and when it would be criminal neglect to refuse it and thereby sacrifice the life of the child, the mother, or of both.

Apart from such conditions, however, which it is quite unnecessary that I should enter into, the broad questions arise whether it is better to deliver a woman by cesarean section, or allow her to naturally deliver herself; or whether, if labor does not proceed normally and some operative method must be resorted to, if that method should of choice be cesarean section. These questions are not so easily answered as may at first appear. There are several matters to be considered. First, the great ease and comparative safety of cesarean section under modern conditions. It is easier than almost any other important operative method of delivery. Secondly, the method almost certainly insures a living child. Third, we must consider the ultimate effects of the operation on the mother, and lastly the rights of both parents and of the State.

A cesarean section done by a competent obstetric surgeon under proper surgical conditions is not a dangerous operation. Its mortality for the mother should be under 1 per cent. But all surgeons are not equally competent and all patients are not equal surgical risks. Williams<sup>4</sup> thinks that throughout the country the operative mortality is not less than 10 per cent.

Even if it were to be shown that the operative mortality in 1,000 cases of average pregnancy terminated by cesarean section was not greater

than the mortality of the same number of cases allowed to spontaneously deliver or be delivered when necessary by means other than cesarean section, such would not obviate the fact that the cesareanized woman is handicapped in future labors.

There are a large number of cases of rupture of the uterine scar in subsequent pregnancies and the mortality is about 30 per cent, in these. Furthermore, we must remember that competent obstetricians who can perform versions, symphysiotomies and other operations not calling for abdominal section, are comparatively few outside the large hospitals and becoming fewer; therefore, it might in a given case be safer to entrust it to a competent obstetric surgeon than to an indifferent obstetrician if some operation has to be done. This would be to say that in the condition of neglect into which the art of obstetrics has fallen in the hands of the ordinary practitioner, the state of affairs is fast becoming that which has been outlined by Williams in which there will be only two types of obstetrical cases, viz: those ending in easy spontaneous labor or needing only the simplest procedure, and those which bid fair to offer some serious complication and should be promptly delivered by the obstetric surgeon.

There is, I am well aware, much difference of opinion, honest difference of opinion, as to what constitutes an absolute indication for cesarean section; but it should not be so difficult to arrive at some authoritative expression of opinion in regard to ruling out several conditions which have been suggested as indications.

In the case of a woman, primipara or multipara, with a normal pelvis and normal sized child, without placenta previa or any other obstetrical condition which might reasonably be considered as an indication for cesarean delivery, to counsel or execute cesarean section would appear *prima facie* to unwarrantably expose her to an unnecessary surgical risk at the time, and further to expose her to risks in the event of further pregnancies. No surgeon can guarantee that even a properly executed cesarean section is perfectly safe; nor, even with the greatest care and best technique, can he guarantee that the scar will be proof against rupture in future pregnancies. The larger collections of statistics of cesarean sections show that the operation has most frequently been performed for contracted

pelvis; the mortality in this condition in more than 3,000 cases collected by Holland<sup>8</sup> varied from less than 2 per cent, when the operation was done before the commencement of labor, up to 27 per cent, after attempts at delivery by forceps or version and even after craniotomy.

Polak<sup>9</sup> from a study of 2,200 cases of cesarean section, selected from the leading clinics in America, shows that the morbidity and mortality after this operation is much greater than is found in the ordinary clean abdominal section for other pelvic conditions.

The medical and lay opinion that has gained ground implying that cesarean delivery is safe and easy, is not justified by the published (and very probably much less so by the unpublished) facts. Even if a woman desires a cesarean delivery for any reason, unless there is an obstetrical indication for it, I do not think any surgeon or obstetrician is justified in acceding to her request, much less suggesting this method. It may be said that a woman has a right to take risks or dispose of her own person. Society has claims on her also and the rights of *both* parents have to be considered as well as the rights of the State. If the State is justified in demanding that its citizens shall expose themselves to death in national exigencies, the State is also justified in expecting that its women shall accept the ordinary risks of motherhood and that they shall not be mutilated or handicapped in their functions of providing the State with citizens and continuing the race. It is an injustice to the woman herself, to the husband, and to the State, to perform an unnecessary cesarean section, and the medical profession should not be accessory to such injustice.

The question as to whether cesarean section is the best and safest method of operative delivery, when such method of delivery is absolutely necessary, is a relative one, which depends upon the surgical judgment and the technical ability of the operators. Unfortunately, we are passing through an era in which too scant attention is being given to thorough instruction in practical obstetrics. A working knowledge of pelvic classifications is almost wanting among our more recent graduates; they are unable to distinguish the mechanism of labor in a given group and seem at a loss when asked to describe a specific type. This opinion is founded upon an eight

year experience as a member of the Illinois State Board of Medical Examiners. Obstetrical practice is not attractive today to the young practitioner; it promises neither the monetary rewards nor the glamor which surrounds a brilliantly performed surgical operation which is sure to be talked about. It is not, therefore, surprising that sound obstetrical methods are abandoned; and, as I have already said, in the absence of correct knowledge of the execution of such obstetrical emergency procedures, it will perhaps be better to depend upon the abdominal section in a serious case. We cannot stand against an operation which has been proved to be efficacious, unless we are quite sure that another which will be less risky can be performed equally efficaciously. I am not opposed to elasticity in the warrantable limitations of cesarean section, but only to its unnecessary execution without even approximately justifiable indications.

I accept the fact of the extension of cesarean deliveries as an indictment of the inadequacy of obstetrical knowledge and as an indication of obstetrical failure.

The main points which I wish to emphasize in presenting this paper is that today in the United States there are many surgeons doing cesarean sections for insufficient obstetrical reasons. These men are not obstetricians, having no obstetrical judgment, their motives are questionable and in many instances they are actuated only by monetary considerations in exposing a mother to an unnecessary risk. Many of these surgeons are not competent to perform a cesarean operation, according to modern acceptable methods, and the results which do not often come to light are frequently deplorable.

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## THE COUNTY TUBERCULOSIS SANATORIUM A UNIT OF THE GENERAL HOSPITAL\*

CECIL M. JACK, M. D.

DECATUR, ILL.

When the Macon County Sanatorium Board was confronted with the problem of where to build its tuberculosis sanatorium, the people of the county already had been educated as to the contagiousness of tuberculosis. This education had been brought about by an intensive campaign under the direction of the local tuberculosis association. The phthisisophobia which existed in other parts of the state had entered very little into the problem, and when it was proposed to build the sanatorium on the grounds of, and

a tax of two mills on the assessed valuation of the county property. Sixty thousand dollars were available in 1922. Five acres of land from the southwest part of the grounds were purchased of the Decatur and Macon County Hospital, a general hospital owned and operated by the Decatur and Macon County Hospital Association. The sanatorium was so placed that it could be connected with the general hospital by a tunnel. (Figs. 1 and 2.)

The plans called for a main two-story building with a wing at either end. The central part contains the general waiting room, clinic rooms, heliotherapy department, and library downstairs, with six patients' rooms and operating room upstairs. Connecting with the main building at the back is a one-story assembly hall, used as a



Fig. 1. The Macon County Tuberculosis Sanatorium.

as a unit of the general hospital, no opposition was encountered. The idea was taken from Dr. Pettit's experiment at Ottawa. He had built a small general hospital on the grounds of his tuberculosis sanatorium with food, heat, laundry, nursing service, etc., furnished by the sanatorium. This seemed sane and practical to our sanatorium board and Dr. Pettit was consulted many times before the final decision was made. He was very anxious to have our board try the plan, so architects were engaged, plans drawn, and work started on the grounds of the Decatur & Macon County Hospital.

Under the Glackin law our county had voted

dining room, recreation hall for entertainments, and often for medical meetings and large clinics. Food is served cafeteria style; patients able to go to the dining room assist a little in serving their own meals. Only one wing was completed at first, but as the plans are elastic, other wings will be added as needed. The wing is also two storied, the upper a duplicate of the lower floor, containing twelve rooms leading from a common passage at their back and a common porch in front. The doors are wide so the beds can easily be rolled back and forth into the rooms. In extremely severe weather the very sick patients are not punished by being kept in the open. The center room projects into the porch and is used as a nurse's station, she having full view of all

\*Read before Section on Medicine, Illinois State Medical Society, Moline, June 2, 1927.

patients on the porch. The Sanatorium Board is now contemplating thirty more beds for 1927.

To the east connecting the sanatorium with the general hospital is a semi-submerged passageway for the conveyance of the food to the serving kitchen, steam pipes from the boiler room, laundry and other deliveries, and it is also used as a passageway for patients, doctors, and nurses.

The superintendent of the general hospital is also superintendent of the sanatorium, and is responsible to the sanatorium board for its con-

duty at the sanatorium. All this helps to make the sanatorium a live institution, a workshop to study this most interesting and important disease, instructing the patient as well as teaching the young doctor to diagnose early one of the five diseases causing the highest death rate. The average nurse who is trained in a general hospital never actually comes in contact with a case of tuberculosis, and often the first case she is asked to nurse when she goes out into private work is one of this disease. Under the unit plan,

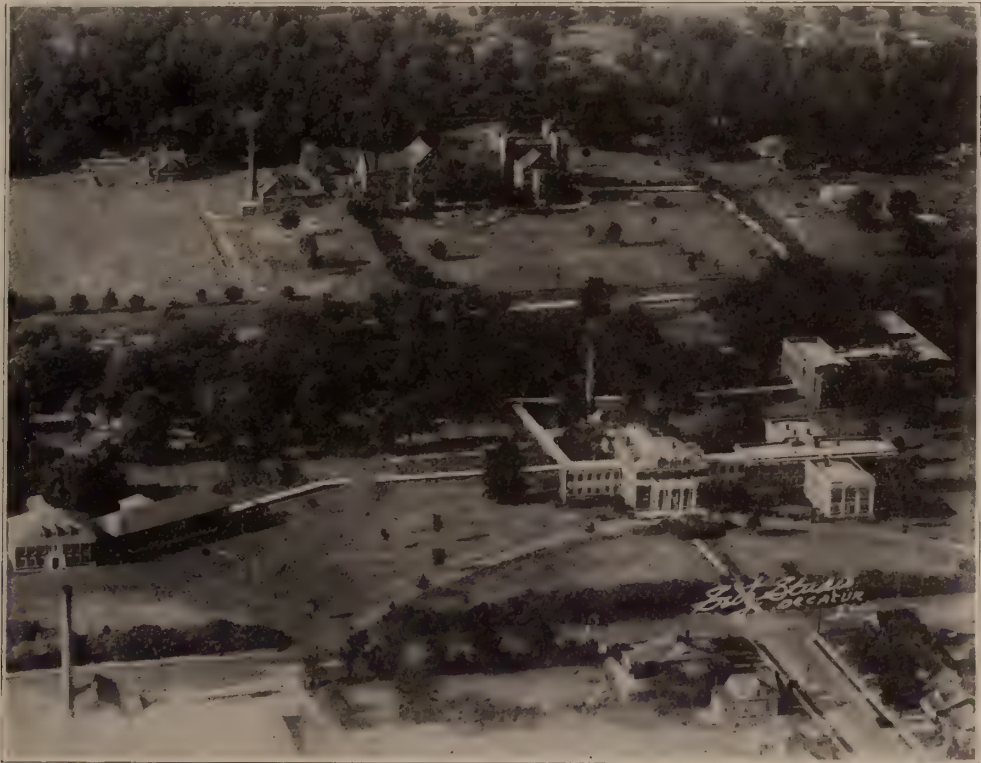


Fig. 2. Air view of Macon County Tuberculosis Sanatorium as a unit of the Decatur and Macon County General Hospital.

duct. He engages the medical director and makes him responsible for the medical care of the patients in this unit. This relieves the medical director of the hundreds of little things which have nothing to do with the diagnosis and treatment of tuberculosis.

I may be over-enthusiastic over this plan. However, it seems at least nearing the ideal. Only a few years ago the student or interne saw a case of tuberculosis rarely, and then only when it entered the hospital accidentally. In this small hospital of 150 beds, our next year's service for the internes will call for two months'

a training in the sanatorium is part of her course. What better opportunity is there for the nurse to study the psychology of nursing?

Food in a tuberculosis sanatorium is its most difficult problem. We doubted at first the feasibility of combining its kitchen with that of the general hospital. The diet should be carefully balanced, of ample quantity and served in an appetizing manner, and the patient should gain steadily in weight. The last forty patients discharged from the sanatorium weighed on an average of 103 lbs. on entering and 117 lbs. on leaving, the average length of stay being 156



days. Each received an average of 2,704 calories per day. The average gain was approximately 1 lb. every ten days or 14 lbs. per patient. The basic requirements of these particular patients were less than 2,000 calories per day. It is, therefore, evident that they had an abundance of food, or 704 calories per day above the required amount. The dietician watches that the meals are well balanced and served in an appetizing manner.

*Advantages:* I believe under this plan the advantages gained are principally by the patient, and this is as it should be. The patient receives expert service from the clinical and x-ray laboratories of the general hospital, nursing service from a nursing school whose nurses do not live in the sanatorium taking up valuable space which should be utilized by patients. In the interne the director is furnished an assistant, relieving him from many details which he must take care of when he is alone. A good director should not be asked to stain the sputum smears or develop the x-ray pictures. If he does this work, he quickly becomes stale, and your sanatorium degenerates into a boarding house for the tuberculous.

A reduction in the overhead by using the heat, laundry, food, nursing service, etc., from the general hospital, may not mean such a reduction in actual cost as you would imagine; the gain will be found in the service to the patient. This I consider very important. You know there is a psychology in getting well of tuberculosis. The more exact we are in diagnosis; our laboratories, x-ray, internes, heliotherapy, and occupational therapy all go to assist in getting our patient well. If the sanatorium is in some far corner of the county, and in many instances it is on the grounds or part of the county poor farm, we cannot expect much as to rapid recovery. If the director is interested in a special line of laboratory work, he has at his command a well equipped laboratory in which he can work. The same may be said of the x-ray. If he wishes to hold clinics throughout the county, he will have time for this without being bound down by monotonous routine. He will even have time to attend medical meetings, contribute to them, and bring back new ideas which will benefit the tuberculous patient.

*Mistakes.* The roof of the assembly hall was

made hipped. It should be flat, making a splendid place for heliotherapy. The other inexcusable mistake was in the width of the hall in the wing; it is not wide enough to turn a bed from room to hall.

*Statistical.* There are forty-seven counties in Illinois that have voted to tax themselves to

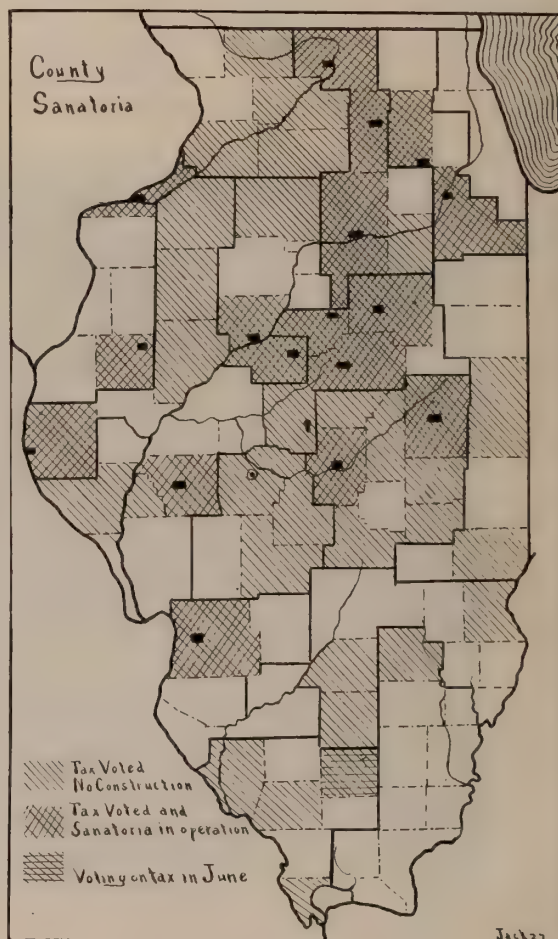


Fig. 3. Map of Illinois, showing status of County Sanatoria.

assist in eradicating tuberculosis, either by building sanatoria or by taking care of their tuberculous sick in other sanatoria. Seventeen of these counties have already built and are operating sanatoria. I will not include Cook County in this resume. One county will vote on this question in June. These sanatoria are mostly in the northern half of the state, there being only one south of Jacksonville. They range from twelve to one hundred and twenty-five beds, and cost from \$12,500 to \$232,000. They are now operating at an average cost of \$3.03 per patient

per day. Ten out of the seventeen sanatoria have full time directors, and of these Macon County is the only county which has built its sanatorium as a unit of a general hospital. The Macon County Sanatorium operated last year at \$3.35 a patient, a cost slightly above the average. This will be materially reduced when the other wing is added.

Scored by the rules of the American Sanatorium Association, the Macon County institution scores 94.5, which puts it in Class A. Our score was lowered on account of the lack of proper occupational therapy. This scoring was done by Dr. William S. Keister, Public Health

## DISCUSSION

Dr. Samuel E. Munson, Springfield: I think it has certainly been a splendid thing for Dr. Jack to get all this data together.

The point to be emphasized is that the tuberculosis sanatorium should be a unit of the general hospital. It has been unfortunate in the past that some of the other diseases, as well as tuberculosis have been separated from the general hospital, from the standpoint of economy and clinical study and observation by the staff. Dr. Jack has set forth the many reasons why it is better for the patient and why it is better for the county, to operate as a part of the general hospital than as a separate unit.

Dr. Jack has been in the tuberculosis work since its incipency. He has been active in the State Tuberculosis Association and other associations for many

STATISTICAL CHART FROM SEVENTEEN COUNTY SANATORIA

County	Town	Total Cost	Cost Per Bed	Cost Per Patient		Total Cases	Deaths	Average Length of Stay		Nurses	X-ray	Director Full Time	San. Part of Gen. Hos.	Beds
				Per Day	Per Case			1926	1926					
Woodford	Minonk	\$22,000	\$1,833	\$ ?	23	2	300	3	—c	—	—	—	—	12
Rock Island	Rock Island	12,500	694	2.75	33	5	...	3	—c	—	—	—	—	18
DeKalb	DeKalb	54,000	2,571	3.60	54	9	152	4	—a	—	—	—	—	21
Livingston	Pontiac	146,000	4,866	2.50	52	14	180	4	—b	+	+	—	—	30
Morgan	Jacksonville	135,000	4,355	2.14	57	8	213	5	—c	+	+	—	—	31
McDonough	Bushnell	130,000	4,063	3.40	99	7	108	5	—	+	+	—	—	32
Tazewell	Mackinaw	166,000	3,052	2.65	68	6	163	5	—c	—	—	—	—	38
Macon	Decatur	160,880	4,022	3.36	96	2	143	7	—b	+	+	+	+	40
Champaign	Urbana	142,000	2,958	2.65	93	5	182	7	—c	+	+	—	—	48
LaSalle	Ottawa	93,200	1,864	2.23	220	9	28	8	+	—	—	—	—	50
Kane	Aurora	135,000	2,500	2.23	134	14	173	6	—b	+	+	—	—	54
McLean	Bloomington	120,577	2,192	3.54	152	9	109	7	—c	+	+	—	—	55
Will	Joliet	185,000	2,984	3.15	119	29	133	7	—c	—	—	—	—	62
Adams	Quincy	160,000	2,461	2.12	...	54	182	5	—	—	—	—	—	65
Winnebago	Rockford	189,195	2,702	2.95	146	7	284	8	+	+	+	—	—	70
Peoria	Peoria	240,750	5,210	3.52	95	8	102	6	—c	+	+	—	—	75
Madison	Edwardsville	282,126	2,257	4.50	82	14	?	5	+	+	+	—	—	125
Average		\$139,660	\$2,975	\$2.95	95	12	168	5						46

Physician of the City of Decatur, an expert in this kind of work.

*Conclusion.* After being in operation four years, a time sufficient for a thorough trial, I consider the county tuberculosis sanatorium as a unit of a general hospital, not only feasible but practical, and I recommend it to other counties contemplating building. I do not consider each county as the proper building unit, as some counties are too small to support a modern sanatorium. These could join other counties in building a sanatorium. This and many other phases of sanatorium work I should like to discuss more fully, but time will not permit.

*Disadvantages.* This part of the discussion I leave to the Society, hoping that you will bring up points I have not covered.

years. Of course, he is a man doing internal medicine, and is not directly connected with the treatment of the cases.

I think that this paper will certainly be of very great value to those counties that contemplate special buildings for their tuberculous cases, isolation or other special units, on account of the expense of operation and administration.

There are few sanatoria in the United States that are connected with the general hospital.

You know a few years ago, that is, when the tuberculosis work first began, in considering the building of a sanatorium there was as much objection to its location as there was in the case of what they formerly called a "pest house for smallpox. They located them away up in the woods somewhere. It was thought necessary in some instances on account of the climate.

But this matter of having the sanatorium as a unit of the general hospital is the right idea. I heard this mentioned several years ago by some of the men East. In cases where it is not connected with the general



hospital the staff have lost the opportunity of studying all tuberculosis cases, and all use of the clinical material they furnish. That was because of the unfortunate condition that has been prevalent in the past.

I certainly wish to very highly commend Dr. Jack for presenting this paper with its valuable data.

### CHLOROMA\*

RICHARD C. GAMBLE, M. D.

CHICAGO

Green tumors resembling leucosarcoma, originating apparently in the bones of the skull, less frequently in the ribs and sternum, have been reported in the literature since Allan Burns made the first description in 1823. The very appropriate name chloroma was first used by King in 1853, and since then practically all of the cases, about one hundred in number, have been reported under that name. With the better understanding of the nature of the leukemias and other diseases of the blood forming organs during these years, our knowledge of chloroma has increased and it has been classed in this group, but is considered as a distinct clinical entity. The literature contains many excellent case reports, as complete as the general pathologist or pediatrician could wish, but very little concerning the microscopic study of the eyeballs. The following case was diagnosed rather early, observed continuously, a complete post-mortem examination made, and the posterior half of each eye was obtained for study. (See Fig. 1.)

#### CASE REPORT

Margaret M., aged seven years, of German parents, entered the Children's Memorial Hospital, October 9, 1925. The child's mother had noticed that the left eye had been unusually prominent for the preceding ten days, and the right eye for seven days. The child had complained of moderate pain in the eyes and of some pain under the left ear. She had frequent frontal headaches, for which glasses had been prescribed six months previously with some relief. She had been a very nervous irritable child during the past two years, but about two weeks before entering the hospital a decided change took place and she became very dull and listless.

Her birth was normal, her birth weight was five pounds, and her development was very slow, both mentally and physically. She had measles, mumps and chickenpox during the first four years of life, and at five years had a second degree burn of the face, neck, right shoulder and left arm and hand. At this time a

general physical examination was negative, except that there was a minor deformity of the left fifth toe and a positive throat diphtheria culture, which later became negative. She had been subject to frequent sore throats. The family history was negative.

General physical examination showed a well nourished white girl, not acutely ill but somewhat listless. There was noticeable pallor of the skin. There were pink scars of an old burn over the face. There was proptosis of both eyes, especially of the right, and some divergencé. Both eyes were limited in upward movement and the right eye was limited in abduction. Upon pushing the eyes back into the orbits a resistance was felt. A tumor mass was palpable in the upper outer quadrant of the right orbit firmly attached to the bony rim. Both eyeballs were normal externally. The media were clear in each eye. The right disc margin was



Fig. 1. Moderate proptosis, most marked in right eye, paresis of left facial nerve.

distinct, except below, where the veins were tortuous and distended and buried in a few places by edema. The left disc margin was slightly blurred in the inferior nasal quadrant. Vision was apparently good, but was not measured.

There was some tenderness over each mastoid area; the right ear drum was normal and the left was slightly red. There was tenderness over each frontal sinus, more marked on the left side. The nasal mucosa was swollen and there was considerable discharge from the left nostril. The mucous membrane of the throat was injected. There was marked tenderness under each angle of the jaw, especially on the left and several enlarged lymph glands below the left ramus. There was no rigidity of the neck. The thyroid gland was palpable. The heart was not enlarged; its action was normal except for a short rough systolic murmur heard over the pulmonary area. The pulse was normal. The lungs were clear. The abdomen was large and protruding; there was no tenderness and no tumor masses.

Read before the Chicago Ophthalmological Society, March 21, 1927.

The liver extended one inch below the costal arch. The spleen was not palpable. The extremities were negative, the patellar reflex was weak on the left side and not obtained on the right. There was some enlargement of the cervical and inguinal lymph glands.

Laboratory examination showed:

Blood count: R. B. C. 2,800,000. Hemoglobin 65%.

W. B. C. 21,700.

Polynuclears .....	12
Small lymphocytes .....	72
Large lymphocytes .....	13
Basophiles .....	1
Eosinophiles .....	1

Vaginal smear: Negative.

Diphtheria culture: Negative.

Urine: Albumin .....Trace

Sugar .....None

Acetone .....None

Hyaline casts .....Few

Pus cells .....Many

Von Pirquet: Negative.

Blood Wassermann: Negative.

Bence Jones protein test: Negative.

*Diagnosis:* Probable chloroma.

Subsequent course: Oct. 10. Dr. Joseph Brenne-  
mann notes: I believe that there is not much doubt  
but that there is some slight flat, painless, not sharply  
circumscribed swelling in both temples, most prominent  
just above the zygoma and somewhat more marked on  
the left. The enlargement of the glands under the  
angle of the jaw is probably due to the same cause.  
There is not much general adenopathy and especially  
not in the cervical glands, that are usually involved  
later. There is a small denuded reddish area on the  
upper part of the right tonsil. It looks as though it  
might be the beginning of a characteristic leukemic  
change. The abdomen feels tense and hard, rather as  
though the abdominal wall were thick and hard than as  
though there were an underlying tumor. This makes  
it rather hard to palpate the spleen and liver. I can  
not make out the former. The bulging eyes, the en-  
larged palpebral fissure, especially on the right side,  
the open mouth, the characteristic swellings over the  
temples, together with the leukemic blood picture makes  
a diagnosis of chloroma very probable.

Oct. 14. Left facial nerve paralysis, complete in  
lower half. Left mastoid very tender. Left ear drum  
is red and bulging, definite pulsation seen. Also red-  
ness and bulging of anterior wall of canal.

Oct. 15. More bulging of eyes, conjunctive of right  
eye protrudes. Left ear drum paler, but bulges and  
seems to have a solid growth behind it. No discharge.  
Cervical and inguinal glands larger. More venous  
stasis in retina, discs less distinct.

Blood count: R. B. C. 2,100,000. Polychromato-  
philia.

Hemoglobin 68%. Color index 1.28.

W. B. C. 24,700.

Differential with oxidase test:

Polys .....	9
Large lymphocytes without granules.....	7
Small lymphocytes without granules.....	27

Mononuclears—large cytoplasm, many granules. 32

Mononuclears—small cytoplasm, many granules 2

Mononuclears—small cytoplasm, few granules.. 22

Mononuclears—large cytoplasm, without gran-  
ules ..... 1

Clotting time: 3 minutes.

Bleeding time under 4 minutes.

Platelet count: 209,000.

Mother's blood: Wassermann negative.

Aunt's blood: Wassermann negative.

Cross agglutination test: Some clumping with  
mother's blood, aunt's blood compatible.

Oct. 17. X-ray treatment given. Discharge from left  
ear.

Oct. 18. Great bulging and edema of conjunctiva  
below right eye.

Oct. 19. More bulging of right eye. Left eye ap-  
pears to have receded and can be closed. Spleen ques-  
tionably palpable.

Oct. 20. Right ear: Swelling anterior to handle of  
hammer, size and shape of small shot, probably an  
infiltration. Left ear: Drum has appearance of being  
displaced forward and downward, probably periosteal  
infiltration.

Oct. 28. Hears watch tick 5 inches from each ear.  
X-ray treatment.

Oct. 29. Eyes bulging more than ever.

Nov. 1. Spleen distinctly palpable.

Blood count: R. B. C. 2,820,000. Anisocytosis and  
polychromatophilia.

Hemoglobin 58%.

W. B. C. 25,100.

Graham Stain:

Polys ..... 6 |

Large lymphocytes, non-granular ..... 12 |

Small lymphocytes, non-granular ..... 14 |

Large mononuclears with large nuclei and few  
granules (myeloblasts) ..... 30 |

Large mononuclears with small nuclei and many  
granules ..... 38 |

Total granular cells ..... 74 |

Spinal puncture: 8 cc, normal pressure, 3 cells, no  
globulin.

Sugar 65 mgr. per 100 cc fluid.

Wassermann negative.

Nov. 3. Marked chemosis of right eye, small area  
of corneal infiltration near limbus at 6 o'clock in left  
eye.

Nov. 10. X-ray treatment.

Nov. 13. Both corneae infiltrated, surface rough-  
ened, greenish color. No perforation. Very marked  
chemosis and proptosis, eyes cannot be closed.

Blood count: R. B. C. 2,110,000, reds pale and ir-  
regular.

Hemoglobin 35%.

W. B. C. 50,800.

Differential count:

Polys ..... 13 |

Large lymphocytes ..... 25 |

Small lymphocytes ..... 30 |

Myeloblasts ..... 20 |

Myelocytes ..... 9 |



Transitional ..... 2  
Cells with Deiters nucleus..... 1  
Nov. 24. Patient very weak. Left ear canal almost occluded. Foul discharge from both ears. Spleen one



Fig. 2. Extreme proptosis, with ulceration of both corneas, complete paralysis of left facial nerve.

finger below costal margin. R. B. C. 1,150,000; W. B. C. 34,000.

Dec. 2. Coughs a great deal Lungs clear. Purpuric spots on left thigh and back.

Dec. 3. Died.

Note: There was nothing characteristic in the temperature, pulse and respiration. The temperature varied between 98 and 102, the pulse between 80 and 150, and the respiratory rate between 20 and 50, the higher figures near the end of the illness. (See Fig. 2.)

*Post-Mortem Report.* Post-mortem examination by Dr. W. G. Hibbs showed both orbits almost entirely filled with green tumor tissue, pushing the eyeballs forward and extending backwards into each middle fossa. The bones of the base of the skull and both temporal bones were diffusely ramified with soft green new-growth. The dura was studded with pinhead to 2 cm. sized nodules, some red-brown, others green; these were most numerous at the base, in each middle fossa. The calvarium was tinged olive green. There was a foramen magnum pressure furrow 4 mm. deep. The fat of the scalp in places was green, likewise the subcutaneous fat in the midline of the trunk. There were small petechial hemorrhages in the skeletal muscles, in the greater omentum and in the peritoneum. The posterior surface of the upper part of the sternum was pale green, due to the small tumors in the mediastinum. The surface of each lung was pale dirty green mottled with hundreds of red-brown areas, likewise the pleura where it was in contact with the ribs and spine. The spine was markedly infiltrated with green tumor tissue. The heart was normal except for many small hemorrhages. The blood clots were brown. The lungs on cut surface were mottled red and brown, no green. The mesentery was almost completely occupied by green lymph nodes, and the lymph nodes along the abdominal aorta were green. The liver extended four to five centimeters below the costal arch, on cut surface it was mottled with fat in small lobular areas; no green areas were seen. The spleen was huge, weighed 170 Gm. and on cut surface was normally mottled pink and red, no green. The right kidney was mottled with green on cut surface, the left was entirely green. Both ovaries were green. The thyroid had a greenish tinge. The thymus was of normal size and was mottled with green. The adrenals showed no change.

*Diagnosis:* Chloroma. (See Figs. 3, 4, 5.)  
The posterior half of each eye was removed post-

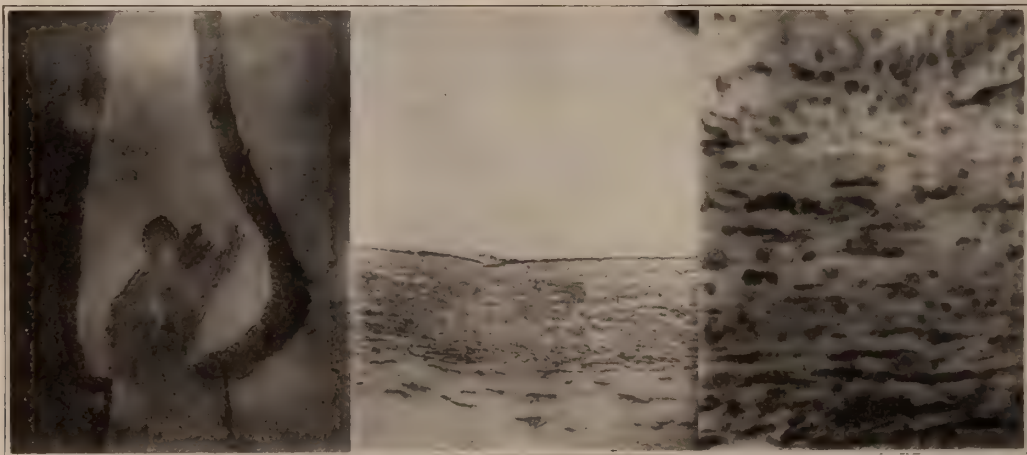


Fig. 3

Fig. 4

Fig. 5

Fig. 3. Right eye. Low power. Diffuse infiltration of choroid.  
Fig. 4. Left eye. Medium power. Both stroma and vessels of choroid filled with white blood cells.  
Fig. 5. Same part of choroid as Fig. 4. High power. Showing the variation in the cells.

mortem, fixed in formalin, sectioned in paraffin and stained with hematoxylin and eosin. Both eyes are alike. The retina is detached, due to loss of support by the vitreous, and forms a central strand. Only a small portion is seen in the sections. There are a few small retinal hemorrhages. The most striking pathological change involves the choroid. Its thickness is increased from two to six times by a diffuse infiltration of various types of white blood cells, both inside of the choroidal vessels and in the stroma. The predominating cell is a little larger than a large lymphocyte, has a moderately dark staining single round or oval nucleus, and a non-granular violet colored cytoplasm (with this stain). These cells should probably be classed as myeloblasts. In addition a few small lymphocytes, some large lymphocytes, a small number

the dura and in the mass of tumor tissue invading it, but no necrosis.

Sections of other organs show the same filling of the veins and infiltration of the tissues by these cells, the kidney and lung in much the highest degree. (See Figs. 6, 7, 8.)

#### COMMENT

This case may be regarded as a usual one of myeloid chloroma, its typical features being:

1. Occurrence in a child seven years old.
2. Proptosis of both eyes due to bilateral, asymmetrical, green tumor masses originating from the bones of the skull.
3. Moderate degree of leukemia with many

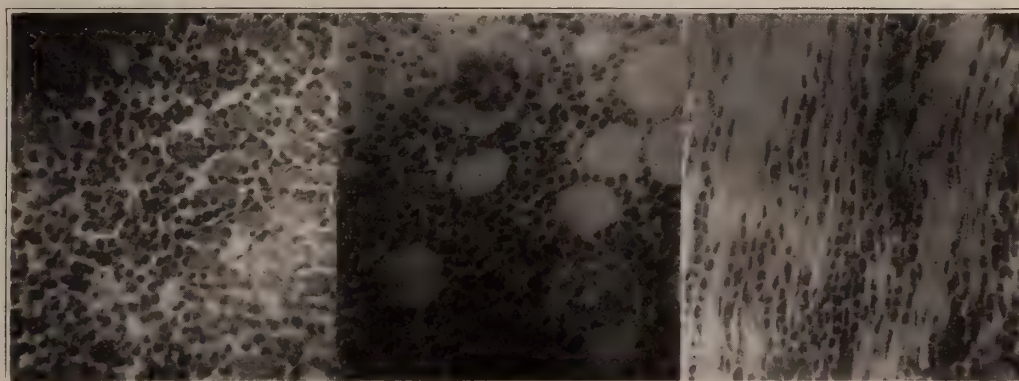


Fig. 6

Fig. 7

Fig. 8

Fig. 6. Section of tumor mass from orbit. The muscles are split into separate fibres by the invasion of the growth.

Fig. 7. Section of tumor mass from orbit. Invasion between the fat lobules. A vein is partially filled with the cells. The artery is empty.

Fig. 8 Tumor invading the dura.

polynuclear leucocytes and rarely an eosinophile with either a single or multiple nucleus is seen. Mitotic figures are present in a few of the myeloblasts. Some of the choroidal vessels contain erythrocytes, but they are few in number compared with the white cells. The same types of cells are seen within the lumen of one of the vortex veins and in the vena centralis retina. The optic nerve is slightly edematous in its intra-ocular portion and is entirely free from cellular infiltration. The sclera shows no change. Pathological diagnosis: Leukemic infiltration of the choroid; papilledema; retinal hemorrhage.

Sections of the tumor mass from each orbit are alike. The various types of cells seen in the choroid are present here in about the same proportions. The cells are quite closely and evenly packed together supported by a moderate amount of reticulum. Many small endothelial tubes are seen, filled with these cells and an occasional erythrocyte. Veins where seen are many times partially filled with these cells, the arteries never. The extrinsic ocular muscles are in many places separated into individual fibres by the infiltration of the tumor cells. Sections of the dura mater show a similar splitting up into small fibres. Many small petechial hemorrhages are seen in

granular myeloblasts and increasingly severe secondary anemia.

4. Greenish leukemic infiltrations and nodules in various organs.
5. Involvement of second, seventh and probably eighth nerves.
6. Enlargement of regional lymph glands and spleen.
7. Rapid course.
8. Fatal termination.

Some of these features are lacking, or at least changed in many cases of undoubted chloroma. The majority do occur in children, a few in infants and a fair number in adults. A few cases have been reported in which the primary site seemed to be in the ribs or sternum. The degree and type of leukemia is probably the most variable feature of all. White counts have been reported, varying from 6,200 (Bedell) to 1,880,000 (Stienon), although in most cases the white



count has been less than 50,000, and the predominating cells described as large lymphocytes, myeloblasts, or mixed. No cases with small cell lymphatic leukemia have been reported, although in cases with low white counts the polynuclears are decreased and the lymphocytes increased. There is considerable variation in the degree of enlargement of the regional lymph glands and of the spleen, but extreme enlargement is rare. The greenish color of the tumor is of course usually present, many cases were not diagnosed until the green masses were seen post-mortem, but cases have been seen, typical in other respects, yet the tumor masses lacked the green color. The rapid course and fatal termination is common to all cases.

Certainly the most interesting and striking part of the disease is the green masses and the leukemic blood. The cause of the green color is unknown, but has been ascribed to blood pigment and to certain fats. It fades out upon exposure to air for a few minutes. It is observed both in the original masses in the bones and also in the filtrations or metastases in the various organs. Green blood clots have also been seen. An excellent description of this subject is given in the paper by Dock and Warthin. A great amount of study has been given to the type of leukemic change found in the blood and to its relation to the other leukemias. It is the opinion of the majority of pediatricians that most cases of chloroma are of the lymphatic type, that is, the cells composing the tumor masses are large lymphocytes or their progenitors, and the same type of cell is the predominating one in the blood stream. On the other hand, Burgess states that chloroma is probably always myelogenous. Others give the opinion that both types of cell may occur equally in the same case. It is difficult to decide which of these opinions is correct because most of the cases have been observed by men who are not expert hematologists, and in many of these cases no oxidase test was made, and without this differential test it is extremely difficult to tell which type of cell is present, and even this test is not always decisive when applied to early undifferentiated white corpuscles. This test takes advantage of the fact that the cytoplasm of the polynuclear leucocyte and its progenitors, the myeloblasts and myelocytes contain an oxidizing substance, and that the cytoplasm

of the cells of the lymphatic type do not contain such a substance. The result is that after making the test there are seen dark blue granules in the cytoplasm of the cells of the myelogenous series, but not in those of the lymphatic series. Inasmuch as chloroma almost always originates from bone it seems probable that the cells are mostly myelogenous, and lymphatic only to the degree of involvement of the lymphoid tissue of the bone marrow.

The relation of chloroma to leukemia has caused considerable difference of opinion, some believing that it is simply an atypical type of leukemia and does not deserve being classed as a separate disease. The most illuminating information on this question I find in Sternberg's classification of diseases of the blood forming organs, and in MacCallum's modification of it which is as follows:

*A. Hyperplasia of Lymphoid Tissue.*

a. With leukemic blood—

1. With swelling of lymphoid tissue and lymphoid infiltration of organs. Chronic and acute lymphoid leukemia.
2. With tumors originating in various situations and invading tissues. Leucosarcoma. Lymphoid chloroma.

b. Without leukemic blood—

3. With tumors involving bone marrow. Lymphoid myeloma.
4. With general swelling of lymphoid tissue. Pseudoleukemia.
5. With regional invasive tumor-like growth. Lymphosarcoma.
6. With stigmata of general maldevelopment. Status lymphaticus.

*B. Hyperplasia of Myeloid Tissue.*

a. With leukemic blood—

7. With myeloid infiltration of organs. Myeloid leukemia.
8. With tumors of myeloid tissue. Myeloid chloroma.

b. Without leukemic blood—

9. With tumors of myeloid tissue. Myeloid myeloma.

Study of this table suggests the idea that with the occurrence of a great proliferation in the bone marrow, spleen or lymph glands, of the various types of white corpuscles, one factor that determines which of the above diseases is to occur is one of permeability, probably of the walls of the capillaries, and this same question of permeability is involved in the occurrence of the leukemic infiltrations and metastases found in some of these diseases. The ability of the cells

to permeate the vessel walls is shown in Fig. 5. Here can be seen these cells both within the lumen of the vessels and also in the stroma of the choroid.

The leukemic infiltration of the choroid is found only in chloroma. It has been described in leukemia by Hudson, Liebreich, Meller, Deutschmann and others. An excellent photograph of this condition from a section by Coates can be found in Parson's Pathology of the Eye. It is the chief cause of the very pale or even yellow appearance of the fundus which is characteristic of leukemia. That it can also occur in chloroma and when the white cell count is much lower than is usually the case in leukemia is of some clinical importance. The possibility of a green color being seen with the ophthalmoscope is suggested. In this case opacity from corneal infiltration prevented a satisfactory fundus examination in the later stages of the disease.

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#### DIABETIC COMA\*

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MOLINE, ILL.

Coma formerly was, and to a lesser extent still is, the spectre that haunts the life of every diabetic. Acidosis and coma are preventable accidents, but they still occur more frequently than they should. Foster<sup>1</sup> gives three causes for acidosis and coma; these are, infections, lapses in diet, and failure to use the accustomed amount of insulin. To these I would like to add a fourth—the activities of the various cults and irregulars. We have seen patients who, in the morning, had been treated and assured by the irregulars that they were doing nicely and would be all right in a few days. With the onset of coma in the afternoon, the family would take matters in their own hands and call in competent help. We have seen followers of faith cures in coma and have seen them return to the faith, even though they seemed to have acquired a good diabetic education while in the hospital. We carried one patient through three attacks of coma only to have coma develop the fourth time and die without a physician being called.

In the severely diabetic a seemingly trivial infection may be sufficient to precipitate acidosis and coma, unless proper measures are instituted. With the onset of any illness, the patient should be warned to go to bed, keep warm and drink plenty of liquid. When the appetite fails, or the illness demands a change of diet, it has been our custom to give milk and orange juice, or milk and oatmeal, or all three of these, in sufficient quantity to cause the fat obtained from his own body to be completely oxidized. Insulin is given in sufficient quantity to keep the patient sugar free, or nearly sugar free. In this way they may go through pneumonia, or other serious illness, without showing the effects of the disease any more than the average person.

We cannot help but admire the will power and self denial displayed by the majority of the diabetic patients as they adhere to their prescribed diets. Monotony is very irksome, so is it any wonder that a diabetic tires of his never changing diet and breaks away from the routine by partaking of the forbidden articles of food? We

\*Read at annual meeting of Illinois State Medical Society, May 29, 1927.



are all familiar with the educated diabetic, who will indulge at the soda fountain and excuse himself by saying that he obtains protection by taking an extra dose of insulin. Unfortunately all do not take the protective dose, or they break diet too frequently and the results are disastrous.

Equally disastrous is a failure to take the accustomed amount of insulin. Many diabetics are as dependent upon insulin as we are upon the air we breathe. When the supply fails and they do not reduce their diet accordingly, they promptly show signs of coma. Fortunately nearly every crossroad's drug store is stocked with insulin, so that danger from this source is becoming less and less.

During a mild diabetes the patient merely has a little too much sugar in the blood and excretes some sugar in the urine. The pancreas furnishes sufficient insulin to cause enough of the sugar to be oxidized to completely burn the fats of the food eaten, the weight is maintained and the patient feels quite well. As the condition increases in severity, less and less insulin is produced. The digestive powers of the gastro-intestinal tract remain unimpaired, the food is broken down and converted into glucose and the higher fatty acids as usual. The net result of this is that though much food may be eaten and digested very little may be utilized. The cells of the body are demanding fuel for heat and energy, but are unable to completely burn the bountiful supply, because of the lack of the hormone, which results in partially oxidized fatty acids and the production of ketone bodies. Nature then falls back on its own resources and attempts to furnish fuel by burning the fat of the body, which again results in the production of more ketones and acidosis is well under way.

*Coma.* The situation now rapidly becomes worse. The patient breathes deeply and the breath is laden with the sweetish odor of acetone. The pulse is quickened, is small, and of poor volume. The heart tones lose their usual snap and seem more distant. The skin becomes cyanosed and the extremities become cold and may be mottled. While this is occurring he becomes nauseated, has abdominal pain and may vomit. The earlier restlessness gives way to a stuporous condition, or to absolute coma. At first he is afraid to drink, because of the nausea and for fear the pain will be increased. Later

he is not aware that he is thirsty. During this time water is being abstracted from the tissues by the increased ventilation of the lungs, by the vomiting, and the increased output of urine. The decrease in the intake of liquids and the greater output of body fluids rapidly dehydrates the unfortunate individual. The dehydration is evidenced by the dry, harsh skin, which hangs flabbily from the body. The tongue is dry, shining and red. The eyes are sunken and the tension of the eyeballs is decreased. Altogether he presents a miserable picture, and we are not surprised to hear the attendant say, "Doctor, there doesn't seem to be much chance."

*The Heart.* A marked myocardial degeneration<sup>2</sup> is found in the cases coming to autopsy, and is probably due to the effect of the acidosis on the heart-muscle. For this reason it is well to spare the heart in every way possible, as sudden death is not uncommon.

*The Blood.* The changes in the blood, as shown by chemical analysis, are interesting and worthy of note. Labbe<sup>3</sup> calls our attention to the fact that nephritis may complicate diabetes and cause uremia. Blood chemistry may be necessary to differentiate diabetic coma from uremic, or other forms of coma. In diabetic coma the blood sugar averages between 600 and 800 milligrams to one hundred cubic centimeters of blood. Much higher readings may occasionally be obtained.<sup>4</sup>

The renal epithelium may show the results of being irritated by the constant passage of sugar and this may be reflected in the blood by an increased blood urea nitrogen. The finding of 40 to 90 milligrams is not unusual, especially in people of more advanced years. In these people a true nephritis is not uncommon. These figures most always show a marked drop as the diabetic condition improves. The carbon-dioxide combining power of the blood is markedly lowered and very low readings are reported by many observers. Mosenthal<sup>5</sup> says that when the CO<sub>2</sub> combining power has dropped to 8, death usually ensues.

*The Urine.* The amount of urine is quite often reduced after treatment is well under way and measured amounts for 24 hours may be only 300 or 400 c.c. This is perhaps due to the dehydration which occurs and to the nephritis which is present. Sugar is usually present in high per-

centages in single specimens. Albumin and casts are not at all uncommon and these quite frequently disappear after a few days. Acetone may be present for some time after the coma has cleared up.

#### TREATMENT OF COMA

The successful treatment of coma demands quick action and a close attention to detail. This necessitates the development of a routine procedure, which may be varied to meet the requirements of each individual. To depend upon any one procedure and neglect the others is to court disaster for the patient.

If insulin is valuable to a diabetic, it is priceless to the patient in coma. The earlier insulin is administered, the smaller the initial dose required, and more quickly results are obtained. We are in the habit of giving 30 to 50 units for the first dose, which is administered hypodermically, though in the more severe cases it is advisable to give half of it intravenously and if there is no improvement repeat in 2 or 3 hours. Following this, a dose of 10 to 20 units is given every 4 hours. With each dose of insulin 200 grams of orange juice and 10 or 15 grams of glucose are given. Before each dose of insulin is given the urine is tested, and if sugar is no longer present the insulin is omitted. The amount of sugar in the blood should be estimated from time to time and as normal levels are approached the dosage of insulin is reduced. It is our belief that it is more important to combat the acidosis vigorously and to subsequently treat the diabetes, so we are not concerned if sugar continues to appear in the urine until after the coma has cleared.

As these patients are dehydrated, the body fluids should be replaced as quickly as possible. A liter of normal saline is given at once by hypodermoclysis and may be repeated as often as is necessary. In the more desperate cases, the intravenous route may be used, but caution must be observed not to throw too much of a burden upon the degenerated heart-muscle, lest sudden death occur. Warm normal saline, or tap water, or glucose solution, should be given by proctoclysis. As the bowels often have been neglected, it is wise to give a cleansing enema of warm water before starting the proctoclysis. We have been singularly fortunate in that all of our patients have been able to swallow, so hot coffee,

broth, and orange juice have been administered freely by mouth. If the patient has been vomiting it is well to wash the stomach and perhaps have half a liter of water in the stomach before withdrawing the tube.

We were able to introduce the duodenal tube in one patient, who was vomiting, and in this way were able to put liquids directly into the intestines. The tube remained in place in spite of vomiting small amounts of gastric juice and was left in the duodenum over 24 hours.

The coma patient should be placed between blankets and surrounded with hot water bottles, or electric heating pads, to warm the cold extremities and bring the subnormal temperature to normal as quickly as possible. The administration of hot drinks facilitates this very much and the patient becomes quieter.

If the pulse is weak stimulants should be resorted to. Caffeine seems to us to be the best, as it is prompt in its action. Digitalis may be of questionable value, because of its slow action in the emergency. We have used the hypodermic preparations and have felt safer because of its use.

#### CONCLUSIONS

Coma is a preventable accident of diabetes, and when it does occur, it is an emergency, which is as important as any surgical emergency.

The treatment of coma must be carefully planned and the plan carried out in detail.

Insulin is very valuable, but should not be relied upon to the exclusion of the other procedures.

Sufficient carbohydrate, in a readily assimilable form, must be administered to combat the acidosis.

The patient must be warmed and the body fluids restored quickly to insure success.

The heart should be supported by stimulants when necessary.

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THE MECHANISM OF NORMAL  
INTRAOCULAR PRESSURE\*  
(A PRELIMINARY OUTLINE)

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CHICAGO

To present this subject clearly, it is necessary first to direct attention to some anatomic parts and to interpret briefly their apparent function.

Thus, the eyeball may be viewed as an imperfect sphere with apertures of various dimensions and directions for the transmission of nerves, vessels and body fluids. The origin and insertion of the recti and oblique muscles is such that the equator of the eyeball is always in direct apposition to the greatest diameter of this cone of muscles, and is subject to a pressure exerted by the normal tonus of these muscles, and to an alternate positive and negative pressure when they function as rotators. Likewise the function of the levator palpebrarum and the orbicularis palpebrarum in opening and closing the eyelids exerts a similar pressure.

The iris with its crypts of Fuchs and its contraction folds presents an absorptive surface for the escape of the aqueous secondary only to the canal of Schlemm. During contraction and dilatation of the iris this function is in all probability accelerated. In addition, it is probable that the motility of this small body of fluid is also influenced by this function.

The drainage angle with its meshwork leading to the canal of Schlemm leads one to the deduction that this is made up in part of all the tissues in its immediate vicinity. Salzmann makes this statement, "The major portion is probably made up of the posterior layers of the cornea and the most anterior internal fibers of the sclera, while the anterior fibers of the ciliary muscle and the root of the iris form the lesser part." It is of interest at this time to call attention to Troncoso's observations of this part with his gonioscope. He is of the opinion that what we have considered as the root of the iris, forming the postero-lateral boundary of the recess, is but the anterior surface of the ciliary body.

Of the canal of Schlemm, Salzmann states that, "It should not be termed a canal, in that it is comparatively seldom a single elongated tube, but more frequently consists of two or more

tubes running side by side, or over one another, in the scleral furrow. Thus the lumina of the tubes naturally must vary in the different parts of the circumference."

Relative to the scleral spur, he states, "The scleral spur or scleral roll is nothing more or less than the anterior internal part of the scleral furrow."

Of the retina we need say but little, except to call attention to the blood supply; the posterior layers receiving their nutrition from the chorio-capillaris and the anterior layers from the central retinal artery.

Of the uveal or vascular layer much may be said. The usual description found in text-books calls attention to the chorio-capillary layer in apposition to the retina, the layer of large vessels most external and the layer of medium sized vessels between.

If we could interpret this circulation from a view point other than that of an ophthalmologist we would unquestionably be impressed with its unique character and its immensity, surely out of proportion to its purely nutritional demands. Of late years some thought and study has been devoted to this subject by Magitot and others but I believe Magitot was the first to report some experimental work in this field. He suggests that the vortex veins must be viewed in the light of venous sinuses or cavernous systems, subject to dilatation and contraction under various stimuli; that by this function the normal intraocular pressure is maintained, playing the role of a buffer between the pressure in the general blood circulation and that of the intraocular structures. Much may be said for and against his suggestions, but I am very much inclined to agree with Magitot that this unique circulation has other functions than that of merely carrying the blood, and that these vessels in all probability do dilate and contract under various stimuli.

Likewise is the circulation of the ciliary processes extremely unique and abundant, if its function is purely limited to that of nutrition. We find the ciliary processes, of which we have about seventy, consisting almost wholly of very fine blood vessels held together by a loose stroma and situated in the free fluid space of the posterior aqueous chamber. This entire uveal circulation is almost wholly the intraocular

\*Read before the Chicago Ophthalmological Society, March 21, 1927.

manifestation of the long and short posterior ciliary system of vessels.

Of the microscopic anatomy and physiology of the fine capillaries much can be said that is of interest and of comparatively recent knowledge. Up to a few years ago the general concept of a capillary was that it consisted of a single layer of endothelial cells, held together by a cement substance which was passively distended by the arterial blood pressure. August Krogh and others who have done much work in this field inform us that capillaries have, external to this stereotyped endothelial tube, a modified muscular layer. This consists of oblong cells (Rouget cells, 1873,—Sigmund Mayer, 1902) with many fine prolongations which sur-

round this tube, and which are subject to contraction and dilatation under various stimuli. (See Figure 1.) This investigator has reported some very unique and interesting observations on the conduct of these fine vessels in the lower forms of life, which have to a large extent been confirmed by others and many of the reported phenomena have been observed in the human being.

to nervous, hormonal and other influences." (See Figure 2.)

Peterson and Willis (1926) make the following statement: "We have heretofore been accustomed to think of the capillary system and its functional control in terms of the vasomotor nervous mechanism and have come to confuse the reaction of the musculature of the arteriole with the presumptive reaction of the capillary wall. Indeed, an independent dilatation and contraction of the capillary has until recently been regarded as improbable, or merely of academic interest."

Again, these same workers make the statement relative to the muscular coat of capillaries that may be only of academic interest, but to the

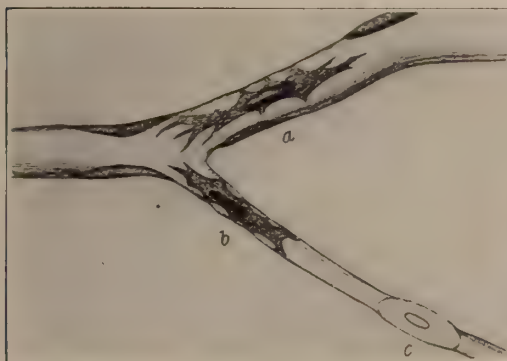


Fig. 1

Fig. 1. Two Rouget cells (a and b) as seen on capillaries in living newt larvæ. B is contracting, c is a red corpuscle.  
x 500. After Vimtrup.

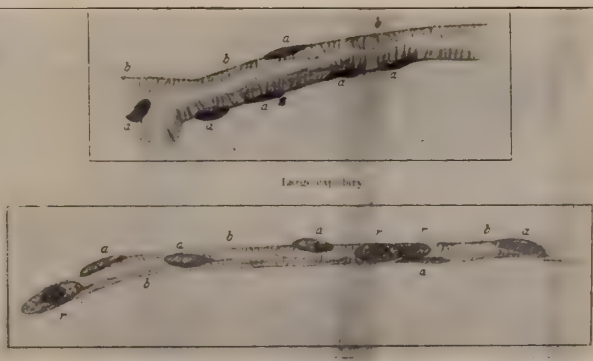


Fig. 2.

Fig. 2. Small, somewhat contracted capillary. a, muscle cells; b, nuclei of endothelial cells; r, red corpuscles. From nictitating membrane of frog. Supravital staining with methylene blue.  
x 500. After Vimtrup.

hypothesis here presented it is distinctly interesting if not pertinent. They say, "This muscular mechanism has been superimposed on the more primitive system and its nervous control, too, is a later addition to the mechanism of regulation."

Krogh further states that normally the capillaries are not all dilated or contracted at one and the same time, but a goodly portion may be dilated, while a like portion are contracted. (Thus they would seem to function not wholly unlike the rhythmic systole and diastole of the cardiac cycle.)

As a result of these observations he is inclined to think that the capillaries are probably much more numerous than the accepted belief. He has shown that the capillaries may be so contracted as to inhibit the passage of even a single blood



cell, or may dilate sufficiently to permit many cells to pass a given point at one time. Thus injected specimens may only demonstrate the capillaries that happen to be dilated at the time of injection. That permeability of the capillary wall is dependent wholly on the state of dilatation of the capillary, which permits fluids and even cellular elements to pass out through the so-called intercellular spaces.

Sufficient work in this field has been reported since Krogh's early publications by Müller, Stricker, Hooker, Peterson, Ebbecke and others, so that we are compelled to view this concept of capillary physiology with more than mere academic interest. In fact, it is very probable that many obscure phenomena may find their explanation in this field in the future. (See Figure 3.) Much may be said of the conduct of

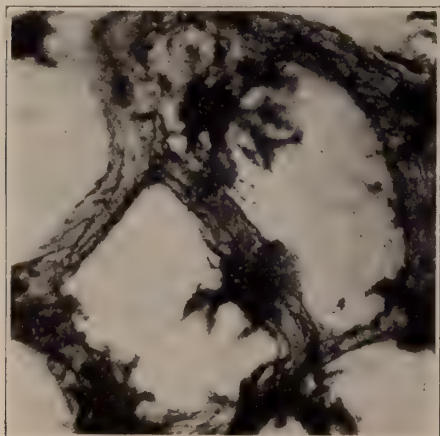


Fig. 3.  
Fig. 3. Capillaries from frog's web.  
Border lines of endothelial cells silvered.  
Black pigment cells.  $\times 300$ .

these vessels under various stimuli that will produce an increased or decreased permeability, e. g., the endocrine secretions, various drugs, increased or diminished hydrogen ion concentration, potassium and calcium balance, etc. The antagonistic observations that have been reported by Peterson as the result of simultaneous stimulation of the endothelium and the external muscular coat, are all vastly interesting.

*The Osmotic Theory.* This hypothesis is based upon the diffusibility of fluids through semi-permeable membranous structures as seen throughout the entire plant and animal world.

Diffusibility of fluids is dependent on several factors, such as the porosity of the membrane

through which the fluids must pass, the size and nature of the molecule of the fluid to be diffused, and the osmotic pressure to which the fluids are subjected. The diffusibility of fluids varies in different parts of the body, according to their different constituent elements, the conditions under which they function and whether or not they are at rest or in active motion. Krogh has demonstrated that in a resting muscle not all the capillaries are open at one and the same time; that is to say, some of them are contracted so that a much smaller surface area is available for diffusion, whereas in the active muscle the opposite is true.

As to the diffusibility of different substances, e. g., crystalloids and colloids, space will not permit of extensive citations, but in general one can say that in the capillary blood vessel we have a membrane which is permeable to crystalloids and impermeable to colloids.

Krogh makes the following general statement: "That no dilatation of capillaries involving mechanical stretching of the endothelium can take place without being accompanied by an increase in the permeability, an increase which runs, on the whole, parallel to the degree of dilatation, and which may allow all the normal plasma colloids to filter off rapidly when the capillaries are strongly dilated. Artificial solutions can produce an extreme dilatation of the capillaries."

*The Mechanism Involved.* To apply and correlate the factors enumerated for an explanation of the maintenance of normal intraocular pressure, the source, flow and escape of the aqueous humor must first be considered separately, and later as a continuous cycle of phenomena.

*Source of the Aqueous Humor.* It is conceded by most observers that this originates from the ciliary body; whether it is a secretion from such glands said to exist in this body or by a process of osmosis, dialysis or diffusion is still probably debatable. Most observers are of the opinion that this humor is the result of the latter process from the vessels of the ciliary processes. Just how this takes place, the factors responsible for preventing elements of the blood stream finding their way into the aqueous and the rate at which this fluid is produced, has been the subject of much discussion. That the elements of which

the aqueous is composed are also found in the blood is conceded. That the epithelium covering the ciliary processes possesses selective properties, thus preventing the passage of substances abnormal to the aqueous is likewise conceded by most observers. There is much experimental and clinical proof to maintain this deduction.

Those advocating the osmotic theory contend that the differences between the systemic blood pressure and the intraocular pressure make this phenomena possible, citing various figures indicating the pressure existing in the different parts. Those maintaining the secretory theory contend that the elements necessary for these phenomena do not exist and that secretory glands must exist in the pars plana.

However, the newer thought on the anatomy and physiology of the capillaries would appear to cast much light on the osmotic theory that is distinctly favorable to this hypothesis. Recall



Fig. 4.

Fig. 4. Arterioles, capillaries and venules at the base of the human nail. After E. B. Carrier.

A picture similar to the above is seen at the limbus when examined with a slit lamp microscope.

again what was said of the ability of the capillaries to dilate and contract irrespective of a like conduct in the arteriole, independent of its nerve supply, and the further observation, that these capillaries alternately contract and dilate, not all of them being either contracted or dilated at one time under normal conditions; that a lesser number are dilated in a resting muscle and inversely in an active muscle; that the permeability of the capillary wall is almost wholly dependent on the dilation existing. (See Figure 4.)

The ciliary processes, consisting almost wholly

of fine capillaries and in apposition and part of the actively functioning muscle of accommodation, would appear to present all the elements necessary for filtration by osmosis. Thus during dilatation of the capillaries, the fluid elements of the blood stream pass out through the so-called intercellular spaces by a process of osmosis through the epithelium and into the aqueous chambers. By this rhythmic, alternating contraction and dilatation of these capillaries is osmosis favored, and the aqueous humor produced. The rate of production of this fluid is dependent on the number of capillaries in the state of dilatation, a greater number being dilated in an actively functioning part than in a resting part. Thus during sleep aqueous production, is decreased, but escape is also lessened. The influence of this capillary function on the intraocular pressure then becomes apparent, but only in part, that is, the filling of the chambers with aqueous humor.

*The escape of the aqueous humor* may be explained largely on the basis of the laws governing hydrodynamics and osmosis. The eyeball being viewed as an imperfect sphere with apertures of various dimensions, should be expected to respond as a sphere containing fluids. Thus a pressure applied to such a sphere would primarily be transmitted equally in all directions; the only friction to be considered would be the partitions existing. The apertures of greatest diameter would naturally permit a freer escape of fluid than the smaller ones. Thus, the canal of Schlemm may be said to be the principal avenue of escape and the iris surface with the crypts and possibly the posterior pole of the eyeball as the lesser avenues. The escape of the aqueous from the posterior into the anterior chamber through the pupil is naturally granted.

This pressure on the eyeball is brought about in several ways. The origin and insertion of the extrinsic muscles is such that the equator of the eyeball is constantly in apposition to these more or less taut muscles. Thus, when the eyeball is rotated in any direction a series of muscles are innervated and as a result produce pressure on the eyeball; when the direction is changed these muscles are relaxed and another series produces a similar pressure. In that way do we have a continuous alternating positive and negative pressure applied to the eyeball during the waking



hours. In addition the closing and opening of the eyelids exerts a like alternating pressure that is of some moment. In this manner is the continuous kneading and massage of the eyeball brought about and the intraocular pressure resulting from aqueous production is neutralized.

It is a well known clinical fact that if the intraocular pressure of an eye is first recorded, and the eye then subjected to a continuous digital palpation for a few minutes, and the pressure again recorded, it will be found distinctly lower. It is also well known that if the finger is applied to the eyeball, the intraocular pressure will be elevated; if the intensity of this pressure is increased the intraocular pressure can be so elevated as to produce arterial pulsation and ischemia of the retinal vessels.

Lederer of Würzburg has demonstrated that by contraction of the recti and oblique muscles the intraocular pressure is elevated.

The squaring of a degenerated eyeball as a result of the action of these extrinsic muscles is likewise a common clinical observation.

In addition to these external forces we must also give some consideration to the function of the iris and ciliary muscle in this cycle of events. The ciliary muscle with its radiating and circular fibers, situated in the limited space external to the ciliary processes, must have some influence on these vessels. During the act of accommodation this muscle is doing real physical work. by its contraction and relaxation, the fine vessels of the ciliary processes are subjected to a pressure, the result of which must be of some moment in this phenomenon.

Of the iris one may say fairly definitely that the crypts of Fuchs possess absorptive properties; of the remaining anterior surface of the iris it is probable that it also possesses like properties in a measure. The influence of contraction and dilatation of this organ on the absorptive function would seem to be considerable.

As to the influence of the function of contraction and dilatation of the iris on the motility of the aqueous humor opinions differ. Some contend that this motility is due to the differences in pressure existing in the different chambers. Slitlamp workers attribute this motility to thermic factors. It would seem reasonable to suppose that such a small body of water would be markedly influenced by the continuous whip-

ping of this fluid during the alternate contraction and dilatation of the iris. This function combined with the external pressure and that of the act of accommodation, would at least be a reasonable explanation of the forces involved in propelling the aqueous from its source through the pupil and into the anterior chamber.

*The transport of the aqueous* from the anterior chamber through the meshwork and into the canal of Schlemm, must next be considered. The most popular explanation prevalent is that of the pump action theory of Thompson. To accept this theory we would be compelled to agree that the scleral spur moves back and forth as if upon a hinge.

If we will recall what Salzmann says of this canal "That it should not be termed a canal, in that it is comparatively seldom a single elongated tube, but more frequently consists of two or more tubes running side by side or over one another in the scleral furrow"—from this description it would seem that even if the scleral spur moved, as Thompson suggests, it would defeat its own purpose by blocking instead of opening the canal, by the overlapping of one spur upon another. It would appear more reasonable, from the factors enumerated, that is, the nature and position of the canal of Schlemm, the anatomic structure of the meshwork, of which at best we can say that it consists in part of all the structures in its immediate vicinity; that it is soft and easily compressible; that according to the different figures elaborated by different authorities, the quantity of aqueous humor filtering through is estimated at between 6 and 10 cmm. per minute; that according to these figures the filtering capacity of the canal would be about ten times the filtering capacity of the most permeable collodion membrane. Therefore it would be safe to assume that this meshwork can act as a permeable membrane and that the escape of the aqueous humor into the canal of Schlemm is brought about by a process of osmosis; the osmotic cycle being maintained by the differences in the fluids on both sides of this membrane or meshwork, and the pressure the fluids are subjected to, both from within and without, as the result of the alternating positive and negative pressure exerted by the striped musculature.

*The Influence of the Nervous System.* From

what has preceded, it would appear that the factors pertinent to this outline were largely under control of the motor, instead of the sympathetic nervous system. The dilators of the iris and the filaments to the capillaries are probably of sympathetic origin. But we know that capillaries can dilate and contract independently of their nerve supply or the state existing in the arteriole.

From reports in the literature on the reaction of the intraocular pressure to various experiments involving the sympathetic ganglia or nerves, a definite deduction would seem very difficult—indeed almost impossible. However, it would appear from an analysis of these reports that it must possess some influence; whether it be of a major or minor character is probably debatable. I am inclined to think that the role it plays is of minor import, that is to say, it probably acts as a refined regulator within certain restricted limits. For example, I am inclined to think that it aids in maintaining that fine balance so necessary to the osmotic cycle. I am further inclined to think that this fine regulating mechanism is probably a later phylogenetic development as suggested by Petersen. An analogy that appears appropriate to this mechanism is that of the balance wheel and hair spring in a fine watch. When all the parts of that watch are functioning normally, this balance wheel and hair spring act as the regulator and control the accuracy of that timepiece. But when that watch becomes dirty and oily, this regulator can no longer function accurately. When that watch is cleaned, oiled and again functioning, this balance wheel and hair spring can then again act as the regulator of the mechanism.

#### RESUME

The blood concerned in this cycle of phenomena is brought to the capillaries by the long and short posterior ciliary vessels. During the alternate dilatation and contraction of the capillaries the fluid elements of the blood stream pass out through the so-called intercellular spaces by a process of osmosis through the epithelium covering the ciliary processes and into the aqueous chamber. By the dilatation and contraction of the iris and ciliary muscle and the pressure of the external musculature the aqueous is propelled through the pupil into the anterior

chamber. By this same process iris absorption is accelerated and by the alternate positive and negative pressure exerted by the external musculature is aqueous escape into the canal of Schlemm brought about by osmosis, the mesh-work of the drainage angle functioning as a permeable membrane. The nerve supply of greatest import to this mechanism is that of the motor system. The sympathetic system acting in a minor capacity as a refined regulator, functioning within restricted limits.

That this perpetual cycle of phenomena is governed and regulated by the known and accepted teaching governing the laws of osmosis and hydrodynamics.

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#### COORDINATING RADIOLOGY WITH OTHER SPECIALTIES\*

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SPRINGFIELD, ILL.

Conclusions drawn in this paper are based upon data obtained by the study of 84 obscure cases, which were examined at St. John's Hospital, Springfield, Illinois, by a group of physicians during 1925, 1926, and 1927. Plan of examination was similarly carried out in each case. Plan is known in our institution as the "Springfield Diagnostic Plan." This plan was devised to meet the demand for group study of cases, and briefly is as follows:

A case under consideration is sent into the hospital, where he or she remains during the period of examination. Upon admittance to the hospital, the physician referring the case for whom he wishes to have examine the patient. His selection of examiners is based on his knowledge of these examiners' special line of work. He includes in the group for the examination

1. An historian.
2. An internist.
3. A surgeon.
4. A pathologist and radiographer.

to which group is added any other specialist whose presence in the particular case is deemed necessary to efficiently effect the complete study of the case. Addition of specialists is made as

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the examination proceeds at the suggestion of any one of the examiners who sees the need for additional specialists' reports.

Each examiner submits a written, detailed report of his examination with a summary of pathological findings as he determines them. After the examinations are completed, a conference is held, at which time a secretary is elected from the examining group, who records the consensus of opinions and discussion of the case. After the conference, the secretary's report and the original reports are turned over to a stenographer, who makes a complete copy of all reports. This copy contains the following reports:

1. History, prepared by an historian.
2. Clinical findings by clinical examiners.
3. Complete laboratory records by pathologist and radiologist.
4. Summary of findings, with complete diagnosis and recommendations as recorded by case secretary.

A copy of this complete report is furnished each of the physicians who have taken part in the examination, and additional copies are filed for permanent record in the archive envelop of the patient at the hospital.

From 84 such reports I would like to call attention to statistics under the following classifications:

1. The total of pathological diagnoses arrived at in the several conferences.
2. The number of pathological diagnoses obtained by x-ray methods only.
3. The number of pathological diagnoses obtained by clinical methods and corroborated by x-ray methods.
4. The number of pathological diagnoses obtained by clinical methods only.
5. The number of pathological diagnoses obtained by laboratory methods only.
6. The number of pathological diagnoses obtained by clinical methods and corroborated by laboratory methods.

In view of the fact that the examinations of these cases were carried out only by expert examiners and specialists in their own lines, I believe that conclusions to be drawn will give an excellent view of the advantage of correlating the radiographic specialty with that of other specialties.

## ANALYSIS OF PATHOLOGICAL FINDINGS WITH REFERENCE TO METHODS OF OBTAINING SAME

### NOMENCLATURE REDUCED TO TERMINOLOGY OF INTERNATIONAL LIST OF CAUSES OF DEATH

Pathological Conditions Recorded	No. of Cases Studied	Determined by X-Ray Alone	Det. by Clinical Corroborated by X-Ray	Det. by Clinical Alone	Det. by Laboratory Alone	Det. by Clinical Corroborated by Laboratory
<b>I. VASCULAR SYSTEM:</b>						
*46 Other Tumors .....	1	1	..	..	..	..
53 Leukemia .....	1	..	..	..	..	1
54 Anemia .....	11	..	..	..	9	2
78 Acute Endocarditis ....	16	1	7	8	..	..
79 Organic Disease of						
Heart .....	11	1	1	4	2	3
81 Dis. of Arteries.....	12	1	1	10	..	..
84 Diseases of Lymphatic						
System .....	1	..	..	1	..	..
85 Hemorrhage .....	1	..	..	1	..	..
88 Dis. of Thyroid Body. 8	..	1	..	..	4	3
50 Diabetes .....	1	..	..	..	1	..
37 Syphilis .....	7	..	1	1	3	2
Totals for Vascular System .....	70	4	11	25	19	11
<b>II. DIGESTIVE SYSTEM:</b>						
*40 Cancer & Malignant Tumors, Stomach & Liver .....	1	..	..	1	..	..
50 Diabetes .....	1	..	..	1	..	..
55 General Diseases ....	4	2	..	2	..	..
83 Diseases of Veins.....	7	..	..	7	..	..
99 Diseases of Mouth & annexa .....	48	37	6	..	5	..
102 Ulcer of Stomach....	1	..	1	..	..	..
103 Dis. of Stomach (not cancer) .....	13	5	1	..	7	..
105 Diarrhea (over 2 years) 4	..	1	3	..	..	..
107 Intestinal Parasites ...	5	..	..	..	5	..
108 Appendicitis .....	28	11	12	3	2	..
110 Dis. of Intestines.....	24	2	..	22	..	..
114 Biliary Calculi .....	1	..	1	..	..	..
113 Cirrhosis, liver .....	3	..	..	3	..	..
115 Liver, diseases (other). 26	16	10	..	..	..	..
Totals for Digestive System .....	166	73	32	42	19	0
<b>III. NERVOUS SYSTEM:</b>						
*56 Alcoholism .....	1	..	..	1	..	..
63 Diseases of Spinal cord 1	..	..	1	..	..	..
66 Paralysis without Specific cause .....	1	..	..	1	..	..
68 Forms of Mental Alienation .....	2	..	..	2	..	..
69 Epilepsy .....	1	..	..	1	..	..
73 Neuralgia & Neuritis..	4	..	..	4	..	..
74 Diseases of Nervous System .....	5	..	1	4	..	..
88 Diseases of Thyroid Body .....	1	..	..	1	..	..
147 Diseases of Organs of Locomotion .....	1	..	..	1	..	..
149 Diseases of Joints, T. B. & Rheumatism Excepted .....	9	..	..	9	..	..
154 Senility .....	1	..	..	1	..	..
130 Diseases of Uterus....	1	..	..	1	..	..
Totals for Nervous System .....	28	0	1	27	0	0

## IV. RESPIRATORY SYSTEM:

*28 Tuberculosis of Lungs.	12	2	6	3	0	1
86 Diseases of Nasal fossae	1	0	0	1	0	0
87 Diseases of larynx.....	1	..	..	1	..	..
90 Chronic Bronchitis ....	1	1	..	..	..	..
97 Pulmonary Emphysema.	1	..	..	1	..	..
100 Diseases of Pharynx...	7	..	..	7	..	..
146 Diseases of bones, T. B.						
Excepted .....	5	4	1	..	..	..

## Totals for Respiratory

System .....	28	7	7	13	0	1
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## V. GENITO-URINARY SYSTEM:

*120 Bright's Disease .....	7	..	..	1	5	1
122 Diseases of Kidney & Annexa .....	1	1	..	..	..	..
123 Calculi, Urinary Passages .....	2	1	1	..	..	..
119 Acute Nephritis .....	2	..	1	1	..	..
126 Diseases of Prostate...	3	..	..	3	..	..
127 Nonvenereal Diseases						
Male Gen. Organs...	2	..	..	2	..	..
130 Diseases of Uterus.....	14	..	..	13	..	1
132 Salpingitis & Dis. female gen. org.....	3	..	..	2	..	1

## Totals for Genito-

Urinary System ..	34	2	2	22	5	3
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## VI. ORGANS OF SPECIAL SENSE:

*75 Diseases of eyes and Annexa .....	4	..	1	2	..	..
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## VII. SKELETON &amp; LIMBS:

*32 Potts' Disease .....	2	2	..	..	..	..
109 Hernia, Intestinal Obstruction .....	4	..	..	4	..	..
146 Dis. of Bones T. B.						
Excepted .....	2	2	..	..	..	..
147 Dis. of Joints T. B. & Rheum. Excepted...	4	..	..	4	..	..
149 Dis. of Organs of Locomotion .....	1	..	..	1	..	..
185 Fractures .....	2	..	2	..	..	..
186 External Violence ....	1	..	..	1	..	..

## Totals for Skeleton

& Limbs .....	16	4	2	10	0	0
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## VIII. SKIN:

*145 Diseases of skin.....	2	0	0	2	0	0
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GRAND TOTALS..347 90 56 143 43 15

The number of different pathological conditions recorded in the eighty-four cases was 106, which when reduced to the nomenclature of the International List of the Causes of Death, was sixty-one.

The total number of pathological conditions for all 84 cases was 347. The smallest number of pathological conditions of any case was one, which occurred in five cases. The largest total of pathological conditions in any case was nine, which occurred in one case. There was an average, therefore, of four pathological findings in each case.

When grouped, according to embryological systems of the body, there was found 70 in the

vascular system; 166 in the digestive system; 28 in the nervous system; 28 in the respiratory system; 34 in the genito-urinary system; 3 under the organs of special sense; 16 in the division of skeleton and limbs; and 2 in the division of the skin.

With reference to the findings obtained by the different methods of examination, x-ray alone showed 90; Clinical methods corroborated by the x-ray showed 56; Clinical methods alone, 143; Laboratory alone, 43; Clinical methods corroborated by laboratory, 15.

In conclusion, this plan of carrying out a complete examination of a patient gives the patient the advantage of an opinion from a number of specialists at a minimum expense to the patient and a minimum inconvenience to the consultants. The report rendered to the patient has greater value because the findings have been corroborated by all the consultants in conference. The data establishes a definite position for the examination of patients by clinical methods, by x-ray methods, and by laboratory methods. This is indicated by the number of pathological conditions found by clinical methods, 214; by x-ray methods, 146; by laboratory methods, 58; which if expressed on a percentage basis gives the following values: clinical methods, 51 per cent.; x-ray methods, 35 per cent.; laboratory methods, 14 per cent.

## DISCUSSION

Dr. P. B. Goodwin, Peoria, Ill.: This paper, as Dr. Bain has given it here, has shown he has worked it out pretty thoroughly in these 347 cases. One point he has brought out is the value of the cooperation we get between our specialty and the other branches of medicine. He says there would have been thirty-five cases which would have been overlooked had it not been for the x-ray. That certainly should prove to the practitioners the value of our work in their diagnoses.

I would like to ask two or three questions of Dr. Bain, which will probably open this up a little bit more to us. I would like to ask him how the men are compensated who come into this group, these different branches of medicine, and if they are compensated is not the expense to the patient rather great?

Another point, he speaks about the historian. I was wondering if that were done by the intern, or whether one physician took the history of all these cases.

And I would like to ask another question. Do you find any antagonism among men who are not called into these conferences, possibly having clinics or doing most of their own work? And whether these cases which you run through this diagnostic plan are obscure cases or whether they routine, as they occur?

I think Dr. Bain should be given credit for the work

\*No. indicates classification number, according to "Manual of International List of Causes of Death."



he has done on this, and it is very interesting to me. (Applause.)

Dr. Walter G. Bain, Springfield, Illinois:

As regards the examiners, none of the work was done by interns. The examinations were made by men who had been in practice at least ten years, and who were considered very competent.

Of course, not the same group of men examined each of the cases. Any man practicing in Springfield, or a member of the Sangamon County Medical Society, who desired to have a case examined in this way, simply sent his patient to the hospital and designated the men he wished to have make the examinations. The historian was designated in each case by the physician who sent in the case. As I recollect, only three different men took the histories on these cases, all of whom were recognized by their associates as being competent physicians. The same held true of the other examiners. There were, in all, I think, twenty men who took part in these examinations.

I want to make this explanation. There were 347 findings, only 84 cases, but 347 pathological observations made. Every case paid a fee of not less than fifty dollars, and in some cases more.

The method of compensating the doctors has been this: Bill including hospital fees, plus allowance for physicians, is paid by the patient to the hospital. Each physician who serves in the case as an examiner is paid five dollars for his services in that case. Since he makes this examination in his routine work as he goes through the hospital in the morning, it is not any great trouble to him. He is notified by the hospital that such-and-such a case is in the hospital for his examination. He makes his examination and writes his report in the routine of his morning hospital visitations.

After the data are all in, luncheon is served at the hospital and the physicians confer on the case at that time. This has been found to be the most convenient time to get them together for conferences.

The 1918 edition of the "Manual of International List of Causes of Death" gives 189 causes of death. Inasmuch as our list included almost one-third of this number, we feel that we had a representative group of diseases, which were distributed fairly well throughout the different systems of the body.

## THE WOMAN'S AUXILIARY OF THE ILLINOIS STATE MEDICAL SOCIETY

MRS. G. HENRY MUNDT, PRESIDENT

CHICAGO

At the last meeting of the Illinois State Medical Society, which was held in Moline, Illinois, the House of Delegates passed a resolution approving a Woman's Auxiliary to the Illinois State Medical Society. A group of ladies was called together and a temporary organization formed with the following elected as officers: Mrs. G.

Henry Mundt, President; Mrs. William D. Chapman, Vice-President; Mrs. C. C. Ellis, Second Vice-President; Dr. Edith B. Lowry, Third Vice-President; Dr. Hada Carlson, Treasurer; Mrs. J. O. Cletcher, Recording Secretary; Mrs. Jas. H. Hutton, Corresponding Secretary.

For some time there has been a feeling among some of the leaders of the Illinois State Medical Society that a Woman's Auxiliary would be a very fine thing. On the other hand, some have felt that it might be treading upon very dangerous ground, fearing that a Woman's Auxiliary might go off at a tangent and combat some of the ideas that have been paramount in the society for many years.

I realize that this could easily be done, so the point must be and is being stressed that the Auxiliary must be subservient to the County or State Medical Society and must only act at the suggestion of or with the approval of these societies. Before taking up any piece of work the state president should confer with the officers of the State Medical Society or the county chairman with the county officers. The National Auxiliary aims to suggest but does not expect to dictate.

We are aware that some states are in advance of others and what might be suggested for one state could not be suggested for another. Some states are ahead of others in trying out measures and have proved to their own satisfaction whether they are right or wrong. We appreciate that the Illinois State Medical Society has been in the forefront for its advocacy of measures which have subsequently proven to be of great service and likewise it has opposed many measures which were advocated by other organizations and later proved to be wrong. Among these I might mention the Harrison Narcotic Act, the Sheppard-Towner Act, and State Medicine.

Undoubtedly it is this cautiousness which has kept a Woman's Auxiliary to the Illinois State Medical Society from being organized until this time. There are twenty-seven states organized and operating successfully. The first auxiliary was organized in Texas in 1917. The National Auxiliary came into existence in 1922. The State of New York is now being organized.

I believe that we doctors' wives organized as an Auxiliary can be of real service to the medical profession, acting as a medium between the pro-

fession and the laity, establishing a better understanding and closer relationship.

Medicine has never taken any definite stand in its own behalf, but I believe it is beginning to appreciate that it should and must. The Woman's Auxiliary gives us a real opportunity to serve the profession and incidentally our own husbands in this very thing.

The Auxiliary will expect to appreciate the viewpoint of organized medicine and assist in conveying this to the public. Women's organizations can do much toward shaping public sentiment and changing the attitude of the public on different health matters. Certain legislative matters could be espoused by a Woman's Auxiliary and great effect could be had upon legislators. We all know the pressure that can be brought to bear upon legislators by women's organizations.

Some women will say that they have no time for another organization, but to those I can say that much of the work can be done through the clubs to which they already belong. We can see that speakers from the Speakers' Bureau conducted by the Educational Committee of the Illinois State Medical Society are brought before our clubs and the viewpoints of organized medicine presented in this way. The bureau is doing a wonderful piece of work and we can assist greatly in this. It might be well if some of us doctors' wives were enlightened a little more as to some of the health problems of today by having these same speakers come to our auxiliary meetings to talk to us. We can see that our club bulletins do not allow the advertisements of drugless healers, quacks, etc. In one state the bulletin of the Federated Woman's Clubs was filled with such advertisements until cleared of such by the Woman's Auxiliary. We can see that the office of chairman of public health is filled by a physician's wife and that it is active when need be. This is sometimes filled by a Christian Scientist.

It is one of the aims of the auxiliary to send out readable information regarding bills pertaining to medicine which are to come before the legislature. I am sure that each member will feel it is one of her duties to read whatever the auxiliary sends to her, while friend husband, unless vitally interested in medical politics, is sometimes too busy and sometimes too negligent

to read literature that is sent to him from the society. Women have more time to take up some of these matters of importance in which the doctor is interested but for which he feels he cannot afford to spend the time.

I feel that we wives owe an allegiance to the one who makes it possible for us to have time for other club activities, but if the doctors themselves cannot see any reason for a Woman's Auxiliary their wives cannot be expected to, for they are too busy with other club activities to bother about things concerning their husband's profession. However, I am sure that they would be glad to be of assistance if they knew how to be, so the doctors must see the need for it before the wives will become interested. I feel certain that the only reason why any doctor is not already interested in the Auxiliary is because he has not taken the time to consider the possibilities of such an organization.

There is the social side, too, which is of great value. I am told that in some places there is a happy relationship between physicians' families that has never existed before, due to the work of the Auxiliary. It is customary for the Auxiliary to take care of the entertainment of the ladies at the National, State and County meetings.

The National Auxiliary holds its meetings concurrent with the annual meeting of the American Medical Association. There is a luncheon held at that time which is open to all members. The State Auxiliary likewise has its meeting concurrent with the meeting of the State Medical Society. It is optional with the counties as to the time of their meetings, though in some places it has brought out a greater attendance of members of the County Medical Society to have their meetings held at the same time. Dinners sometimes are served or lunches are brought and these are enjoyed together while the meetings are held separately. Some Auxiliaries have afternoon musicals or card parties. However, there should be a meeting held once each month from October to June with reports given and recommendations made at that time.

The dues will be very small. Anyone desiring to become a member where there is no County Auxiliary may become a member-at-large by paying her dues to the State Auxiliary. We hope to have very few such members for we are desirous of having every county organized. We



want the County officers to come to the State meeting next spring and assist in forming a permanent organization.

Now that the Illinois State Medical Society has seen fit to have a Woman's Auxiliary I think that we should put forth every effort to make it one of the strongest auxiliaries, for the Illinois State Medical Society with its standing as one of the leading State Societies cannot afford to be a laggard in this matter. However, we shall not try to force the Auxiliary where it is not wanted. We possibly cannot do big things to start with, but let us be organized and ready to respond to any call from the profession.

I feel that I have had very good response from the counties so far, but may we not have them all organized?

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#### ACUTE AND CHRONIC APPENDICITIS THE VALUE OF X-RAY FOR DIAG- NOSIS OF CHRONIC APPEN- DICITIS\*

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The literature about appendicitis is very copious. According to Dr. George Edelbolm 376 articles were written about appendicitis until 1899. Since that time the literature on the subject increased.

From 1905 to 1923 the Mayo Clinic produced twenty articles about the same subject in addition to those which are printed in the Journal A. M. A., and in the Annals of Surgery. It looks like the question about appendicitis is exhausted and clear to every man of our profession. However, there are obscure cases which are difficult to diagnose. Those cases are the chronic type of appendicitis which is the subject of my paper. I will make a brief review of the entire subject and then analyze the obscure cases where the x-ray examination is of great importance for diagnosis.

##### CLASSIFICATION

MacCarty of the Mayo Clinic in a paper read before the convention of the American Medical Association in June, 1910, makes the following classification:

1. Clinical
2. Surgical
3. Pathological

1. *Clinical.* The medical men divide appendicitis into acute, subacute and chronic. The disease is called perityphlitis, when after repeated attacks a local or circumscribed peritonitis exists.

This classification is based on the clinical symptoms as pain, which is localized in typical cases in McBurney's point, and in atypical cases in the epigastrium, inguinal region and even in the left hypochondrium. The other symptoms are—vomiting and constipation, rise in temperature, tumor mass or infiltration in appendiceal region and leucocytosis.

2. *Surgical.* The surgeons regard the appendicitis from a different standpoint. They raise the question, 'is the case operable or inoperable; is the appendix suppurative or not (appendiceal abscess)? In addition to the two surgical questions they accept the pathological classification.

The only difference between the surgeons and pathologists on this subject is, that the former are taking in consideration the position of the appendix in the abdomen (retrocecal appendix) and the findings during operation, and the pathologists are basing their opinion on the macroscopic and microscopic pathological findings (catarrhal, suppurative and gangrenous appendicitis).

3. *The Pathological Classification is:* Appendicitis catarrhalis acuta (infiltration of the mucosa).

Appendicitis catarrhalis chronica—formation of adhesions between the appendix and other organs in the abdomen as the gall bladder, fundus ventriculi, colon, omentum, uterus and right ovary. The appendix was found also in the hernial sac of inguinal and femoral hernias.

Appendicitis purulenta necrotica—a circumscribed suppurative process of the mucosa and submucosa. This form is characterized by formation of local abscesses within the mucosa and muscularis of the appendix and formation of a peritoneal wall around the organ to stop the spread of the infection through the rest of the abdomen. This is a benign form and recovery usually follows after operation.

Perityphlitis acuta—a suppurative and gangrenous appendicitis complicated with general peritonitis. This is a most serious form of appendicitis and occurs in ulcerative form of appendicitis after perforation and a spread of septic

\*Read before the Russian Medical Society, April, 1927.

material through the peritoneum of the whole abdomen (septic peritonitis and death are the final result).

Obliterative form is a chronic form, with obliteration of the lumen of the appendix with fibrous tissue, fecal masses and pin-worms or oxyuris vermicularis in children from three to twelve years of age (75 per cent).

#### PATHOGENESIS

There are different theories about the pathogenesis of appendicitis.

*Theory of focal infection.* Dr. Rosenow thinks that focal infection—infected tonsils and infected teeth (pyorrhea), cholecystitis and diseases of the

pendicitis. I can confirm Dr. Rosenow's theory in my own two cases (Miss E. L. and boy K) who developed appendicitis after an acute follicular tonsillitis.

In other experiments, Rosenow injected the pathogenic microorganism from a removed appendix into the rabbit's blood and the animal gave all manifestations of a cholecystitis (49 per cent). These experiments made by Dr. Rosenow and the observations made by Dr. MacCarty on his large clinical material at the Mayo Clinic brings us to the conclusion, that in a great many cases of cholecystitis we will find a previous history of appendicitis.

*Infectious Theory.* Some other observers think that appendicitis is caused by colon bacillus and the streptococcus viridans. Rosenow isolated from the appendices removed during operation, microorganisms which on the culture media (blood agar) gave a growth of colonies, resembling streptococcus viridans. He injected the obtained pure cultures of streptococci into the vein of a rabbit and the animal gave the symptoms of appendicitis. The infectious theory is confirmed also by the fact, that the disease may appear in form of an epidemic when we consume infected food material.

From February until March 5, 1915, an epidemic of appendicitis broke out in the Culver Military School, in the State of Indiana, when eight cases of appendicitis were found among the cadets. An investigation was ordered by the Commandant and it was discovered that the cadets used unpasteurized milk. The milk was examined and staphylococcus aureus was found in the milk.

*Predisposing Cause.* Colonic stasis is the most common predisposing factor which causes putrefaction in the large intestine and the penetration of the colon bacillus into the appendix. The other predisposing factors are—the anatomical anomalies of the appendix and trauma in the right hypochondriac region, caused to prize fighters, soldiers during military exercise and workmen by lifting heavy objects during their work (for example truck drivers, and dock workers), and in women the attack may be precipitated at the menstrual period.

*Laboratory.* The leucocyte count and the differential blood count are very important in determining the gravity of the disease in appendicitis cases. The leucocyte count is the



Fig. 1. Spasticity of the Colon in Chronic Appendicitis (S. E.). (Cushway's X-Ray Laboratory.)

female organs (tubal and ovarian trouble) are the main causes of appendicitis.

He is of the opinion that the infection spreads through the lymphatic system to the appendiceal region. Dr. Rosenow, experimenting on rabbits, found that when the infected material is spread from the tonsils into the rabbit's blood, the animal in sixty per cent of the cases developed ap-



index of the defensive powers which the sick human body has to combat the infection.

Pathological leucocytosis is a condition in which the amount of leucocytes in 1 cmm of the blood is higher than 10,000 and the polymorphonuclear neutrophilic leucocytes is 75 per cent, or more. Sondern, Louis Vilson and Deaver published their observations on this subject and made the following conclusions:

Polynuclear percentage is the index of the

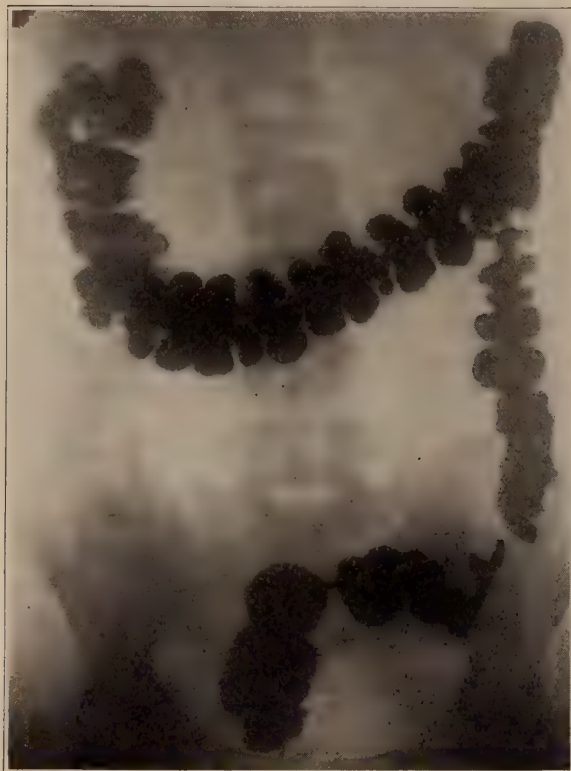


Fig. 2. Visible Appendix in Chronic Appendicitis (E. C.). (Cushway's X-Ray Laboratory.)

gravity of the disease. The height of the leucocytosis shows the strength of the body to resist infection. If the polynuclear percentage is high and the leucocytosis is comparatively low, the prognosis in such cases is bad. (The infection is liable to overcome the body resistance). On the contrary, if the leucocytosis is high and the polynuclear percentage is low, it means a mild case in which you can expect a quick recovery.

L. Vilson in describing his observations mentions a case when a sick woman, thirty-five years of age, entered the hospital with a diagnosis of subacute appendicitis. The blood count gave the following results: Leucocytosis 83,000; polynuclear, neutrophilic

leucocytes 68 per cent. The surgeon operating on the patient, found a chronic appendicitis with adhesions. This phenomenon confirms the fact that in spite of the high leucocytosis, the patient recovered because she had a mild infection and a great resisting power in her body. My own case confirms the value of leucocyte count in chronic appendicitis to determine the necessity of surgical interference.

A patient thirty-two years of age, suffered from a chronic appendicitis. For economical reasons he postponed the operation for an indefinite time. I was called in to see the patient at about 6 p. m. March 26, 1926, and I found that the patient had a mild attack of appendicitis and a normal pulse and temperature. Leucocyte count was 18,000; polynuclear percentage 84. The patient was sent to the hospital and on the following day was operated on. Subacute appendicitis and abdominal adhesions were found. The patient made a full recovery in nine days and gained twenty pounds in a few months. L. Vilson made more radical conclusions that in some cases which have a severe infection and a low body resistance (low leucocyte count and a high polynuclear percentage) the surgeon takes a big chance, if he undertakes operation. He advises to treat such cases medically. L. Vilson's statements confirm the phagocytic theory developed by Metchnikoff (the capacity of the leucocytes to digest the pathogenic microorganisms.)

My conclusions are—in every appendicitis case the differential blood count is just as important as the leucocyte count.

#### CLINICAL VARIETIES OF APPENDICITIS

*Appendicitis in Children.* Appendicitis is very common in children. The children under one year of age are less apt to become sick with this disease, than the school children. Dr. Isaac Abt found in the literature two cases of prenatal appendicitis. One case is described by Dr. Jackson in 1904. To a newborn baby by mistake was given bichlorid of mercury solution and he died forty hours after birth. Autopsy was ordered and performed by the Coroner's physician during which was found adhesions between the appendix and the cecum. These adhesions are possible only in cases of chronic appendicitis.

*Sex.* According to Abt's statistics, the disease occurs more frequently in boys. Of eighty-one cases of appendicitis, which he describes, fifty-four were boys, sixteen girls and in eleven cases sex was not mentioned. Among the eighty-one cases were twenty babies from one to three months of age. The frequency of the disease in children can be explained by embryological and anatomical anomalies of the appendix in individual cases and the increase of

the lymphoid tissue in the meso-appendix in babies.

With age, the appendix increases in size and is movable in the abdominal cavity. Appendicitis in children may perforate in a few hours (four, six or twelve hours) and cause general peritonitis. This fact explains the high mortality rate which we observe in appendicitis in children.

Dr. Harry Richter operated in Cook County Hospital on 185 appendiceal cases in children, including eighty-seven cases of perforative appendices which ended in—

Appendiceal abscesses .....	40
Retrocecal appendicitis .....	5
Ruptured appendix and general peritonitis....	7
Ruptured appendix with fecal fistula.....	4
Pelvic abscesses .....	1

The rest were catarrhal appendices or with minor complications.

I want to mention here two abdominal complications which are frequently overlooked—subphrenic and rectal abscesses. According to Dr. V. Schragger's statement, all the pelvic abscesses in males are the result of a complicated appendicitis.

For diagnostic purposes it is necessary to make a rectal examination and examine the abdomen superficially to prevent the spread of the infection.

I will present to you a case of appendiceal abscess which I had three years ago.

A school boy, I. H., fourteen years of age, suddenly became sick and was confined to bed. When I came to see the case I found out from the past history that he had attacks of abdominal pain, which were treated symptomatically.

Physical examination revealed that he had a temperature of 103.5, a regular pulse 140 per minute, and the respiration reached twenty per minute. Throat negative. Chest, heart and lungs negative. Abdomen distended with gas and painful on palpation. A tumor mass was found in the right hypochondriac region which was circumscribed and soft in consistency. The rectal examination confirms the diagnosis of an appendiceal abscess.

Laboratory findings: The urine was negative. The blood—leucocytes 28,000, polynuclear neutrophilic leucocytes 76%. I recommended to the family an immediate operation which was postponed against my will until the morning.

The following day the patient was operated on in my presence by Dr. Harry Richter under general anesthesia.

The vermiform process of the female is smaller than that of the male and its blood supply is better in girls than in boys. (Julius Hess).

A perforated gangrenous appendicitis with localized abscess was found. The appendix was removed and the operation wound was partially closed by silkworm stitches and a cigarette drain inserted. The temperature after the operation dropped to normal but three days later rose again. The stitches in center of the wound were removed and irrigation of the wound with Carrel-Dakin solution was performed.

*Peculiarities of appendicitis in children.* The diagnosis of appendicitis in children is more difficult than in adults. Let us take, for example, babies under one year of age. They are unable to talk and to express their exact complaints. Therefore, it is hard to localize the abdominal pain. Vomiting accompanies all acute infections and gastro-intestinal diseases. The temperature in such babies is not always high. Some malnourished children do not react to the infection so strongly and do not cause a rise in temperature. The only reliable method of diagnosis in babies is the physical examination. A delicate palpation of the abdomen and a rectal examination are of some value to the examining physician.

The flexion of the thigh to the abdomen is a very characteristic position taken by babies in appendicitis cases. Even by palpation it is difficult to discover the real pathology, because the appendix is palpable only in ten per cent of the cases. In a great many cases pain and tenderness are discovered in the left abdomen, when the pathology is on the right side (retrocecal appendicitis). The laboratory examination can help us only in cases of very high leucocytosis. As you know, normal children have a leucocytosis from ten to 20,000; polymorphonuclear leucocytes 34 per cent, lymphocytes 59 per cent, transitionals 6.4 per cent. (Gundobin, Julius Hess, and A. Levinson.)

*Differential diagnosis.* Appendicitis in children has to be differentiated from the inflammation of the right ureter (pyelitis), nephrolithiasis, undescendent testicle, intussusception, intestinal obstruction and gastro-intestinal diseases, which occur mostly in malnourished children.

According to Broca every appendicitis is preceded by an enterocolitis and some appendicitis cases are accompanied by a strangulated hernia (Dr. Isaac Abt).

Benjamin Breakstone and D. M. Sewell reported a case of an eighteen day old baby which had a tumor mass in the right inguinal region



the size of a pigeon's egg. The swelling appeared suddenly and it was impossible to reduce it. The baby was operated on by Dr. Breakstone and when he opened the inguinal canal he found a congenital sac, containing the cecum, appendix and a small part of the ileum. The appendix was removed and a herniotomy was performed. The child made an uneventful recovery.

Every case of appendicitis should have a careful examination of the respiratory tract (throat and lungs).

Dr. Joseph Brenneman found pain in the belly in acute tonsillitis which confirms the focal infection theory of appendicitis, the spread of the infection from the inflamed tonsils through the lymphatic system into the mesenteric glands and finally to the lymphatic tissue of the meso-appendix. The pleuropneumonia can simulate appendicitis on account of the diaphragmatic pleurisy which goes along with the pneumonia of the base of the right lung. In my cases Miss E. L. had a combination of acute tonsillitis, pneumonia of the right lung and acute appendicitis. Baby K. developed acute perforative appendicitis after an acute tonsillitis. Both patients recovered after an emergency operation (appendectomy and drainage).

In discussing the question of appendicitis in children I want to impress upon you, that pinworms (*oxyuris vermicularis*) are a very common cause of the disease, that appendicitis may occur after acute infectious diseases (grippe, scarlet fever and typhoid fever) and that several cases of appendicitis may occur in one family (Dr. Isaac Abt).

The best treatment is prompt operation to prevent complications (perforation and general peritonitis). In the postoperative treatment push fluids through saline solution under the skin (Murphy drop by drop method is not used in babies).

*Chronic appendicitis.* The German pathologist Aschoff said, that every chronic appendicitis is a result of an acute process. The infection probably was so mild, that the patient did not pay enough attention to it and did not consult a physician. Chronic appendicitis may give mild dyspeptic symptoms as pain in epigastrium after meal, nausea and vomiting, hyper-acidity and is diagnosed as *gastric ulcer*. Or the appendicitis manifests itself with pain in the region of the gall bladder which radiates to the shoulder. Such

cases are usually diagnosed as cholecystitis. Chronic appendicitis should be differentiated from colitis (mucus in the stool), nephrolithiasis on the right side and in rare instances from tuberculosis and carcinoma of the cecum, tuberculous peritonitis, coprostasis, chronic intussusception, floating kidney, cystitis (when hematuria occurs during the attack). According to Dr. John A. Lichty the hematuria is due to direct extension from the appendix to the right ureter. Keep in mind also psoas and iliac cold abscesses, the result of Pott's disease. In females the appendicitis can be confused with inflammation of the right ovary and right Fallopian tube also with enteroptosis and general asthenia in neurotic women. The removal of the appendix improves all the dyspeptic symptoms and the patient gains in weight after the operation.

*X-Ray examination of the gastro-intestinal tract* is a decisive factor in diagnosis of all obscure abdominal conditions, as an addition to a routine physical examination and all other laboratory tests (blood, stool, urine and gastric analysis). The patient is given a barium meal. At first we make a fluoroscopic examination and then take plates of the gastro-intestinal tract.

During the fluoroscopic examination of the stomach we look for the position of the organ in the abdominal cavity (to exclude gastropptosis) for a niche or incisura on the lesser curvature to exclude gastric ulcer. Then we examine the shape of the pylorus and duodenal cap. An incisura in the duodenal cap means duodenal ulcer.

Pylorospasm does not mean only gastric pathology. It can be found also in chronic appendicitis as a result of adhesions between the appendix and the stomach.

Six hours after the barium meal was taken in the second examination is made. Gastric residue, if found, means obstruction of the pylorus by organic lesion or by gastric neurosis. To differentiate these two conditions we give the patient ten drops of tincture belladonna, which relieves the obstruction in functional cases and has no effect on organic lesions. Twenty-four and forty-eight hours examinations are the most important ones in diagnosis of chronic appendicitis.

*Colonic stasis* is a condition in which the barium mixture is retained in the large intestines after twenty-four or forty-eight hours. Normally the bowels are empty after that time. In chronic

appendicitis we can see that the cecum is filled with barium on the twenty-four or forty-eight hours plates, and the other parts of the colon (the transverse or the descending part) is in the stage of spasmodic contractions, and has a stringlike appearance.

Such conditions are seen also in chronic colitis.

The vermiform process in chronic appendicitis is visible (filled with barium) kinked or angulated and segmentated. Visible appendix means pathology only after thirty years of age because normally the appendix is obliterated at that time (B. Cushway). This method of diagnosing chronic appendicitis by x-ray examinations is in detail described by Russel D. Carman and Bertram G. Cushway.

In my private practice in Chicago, I had two obscure cases which I diagnosed as chronic appendicitis by means of x-ray. One of my patients, Mrs. E. C., thirty-two years of age, had pain in the right lower abdomen and other dyspeptic symptoms for seven long years and suffered a great deal. After a physical examination I diagnosed a chronic appendicitis and sent the patient to the x-ray laboratory. By fluoroscopic examination the cecum was fixed and tender and the appendix visible forty-eight hours after the barium meal was taken in.

The other patient, Mr. S. E., gave a history and clinical symptoms which were similar to those provoked by gastric ulcer. The x-ray examination decided the question in favor of chronic appendicitis. Both patients were operated on; the first at Mt. Sinai Hospital by Dr. Victor Schrager, and the other at Lutheran Memorial Hospital by Dr. Charles Stotz. The operations confirmed the diagnosis in both cases. Complete recovery followed after the operation and all the dyspeptic symptoms disappeared.

*Appendicitis in Married Women.* The frequency of appendicitis in newly married women is striking and the gonococcus from the infected tube is very often the etiological factor (Dr. Joseph B. DeLee).

A woman who had chronic appendicitis during pregnancy may have acute attacks. During the first four months the prognosis is more favorable than between the fifth and eighth month. If the appendicitis is not complicated (an acute catarrhal) the appendix can be removed without danger to the fetus. In suppurative appendicitis watchful expectancy is the best method of treat-

ment—we wait a few days until adhesions are formed around the appendiceal abscess—to prevent the spread of the pus along the peritoneum.

According to DeLee (thirty cases) and Schmid (486 cases) the suppurative appendicitis has a grave prognosis and a high mortality.

De Lee said: "The inflammation is more stormy, owing to the intense vascularity of the parts. The protective adhesions are less likely to be formed, the omentum and the intestines are pushed away by the enlarged uterus and the abscesses burrow deeply in all directions. A bacteremia may occur in the blood and placenta and cause abortion, premature labor, death of the fetus, sepsis and septic endometritis."

If the attack of appendicitis occurs during labor, the labor is very painful, the contractions of the uterus are weak and the labor is prolonged in all three stages. Manual removal of the placenta is needed. The inflamed appendix may rupture during the contractions of the uterus, which results in general peritonitis.

Appendicitis has to be differentiated from ectopic pregnancy and twisted ovarian tumor, also from puerperal sepsis when a suppurative appendicitis occurs in the stage of puerperium.

In non-pregnant women the appendicitis may be confused with salpingitis and oophoritis. Bimanual examination clears up the diagnosis.

*Treatment:* Every case of chronic appendicitis which gives repeated attacks, should be operated on before the woman becomes pregnant. During gestation operate without delay in the early months of pregnancy to avoid abortion and premature labor.

In case of abortion special precautions are taken to avoid the breaking up of protective adhesions around the appendiceal abscess (conservative treatment and careful curettement). In suppurative appendicitis a laparotomy is performed—the appendix is removed first and the baby is then removed through a cesarean section. Rest in bed, starvation diet, ice bag to the abdomen and tincture of opium—those are the lines of medical treatment.

*Starvation Diet.* The patient is given tea, soup, but not milk to avoid gas distention. Tincture of opium internally (ten drops three times a day) or morphine hydrochloride, one-fourth of a grain in 1 cc. of distilled water hypodermically is given by many clinicians. Dr. John Deaver does not recommend the use of



opium. He bases his opinion on the fact that opium confuses the clinical picture. Dr. Otto Foerser, Sahli and Forsheimer strongly recommend the use of opium in such cases. The principle of the treatment is to relieve the patient's suffering and the shock caused by severe pain, and reduce the intestinal peristalsis and to stop the vomiting. The use of laxatives is contraindicated. Oil enemas are permitted to use only on the fourth day since the onset of the disease. In severe cases with toxemia normal salt solution is injected hypodermically.

**Prophylaxis:** Operate in the intervals between attacks on all cases of chronic appendicitis in men and especially in married women to prevent a complicated pregnancy.

#### SURGICAL TREATMENT

The operation is performed according to the general rules of asepsis and antisepsis. The appendix is removed, the base is inverted and a caustic in the form of carbolic acid is applied to the stump. The operative wound is closed by three rows of stitches (catgut for the peritoneum and fascia and silkwormgut for the skin). The routine incision is made at McBurney's point. John B. Murphy, who popularized the idea of early operation on acute appendicitis in the United States through his operative work and scientific articles, used to make a bottle incision (along the rectus muscles) and covered the appendix with sterile gauze to prevent the spread of the infection to the peritoneum.

**Drainage.** In appendiceal abscesses the surgeons are closing up the wound for a few days to favor the formation of protective adhesions and after that they are draining the pus 2358 W. Chicago Avenue.

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### THE CLINICAL VALUE OF LIVER FUNCTION TESTS

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The liver fulfills a most important and varied role in metabolism. It participates in the process of resorption, in storing up certain substances in the process of intermediary metabolism, and in the breaking up of foodstuffs. It also has detoxicating functions, and plays a role in iron metabolism. There are quite a number of liver function tests, but the simplest and most satisfactory ones are 1. Urobilin and Urobilinogen tests, 2. Van den Bergh, 3. Icterus index, 4. Phenoltetrachlorophthalein (dye) test, and 5. the Fouchet test.

The urobilinogen test is carried out with Ehrlich's aldehyde reagent. After urobilinogen stands in the air it is converted to urobilin. Both are products of bilirubin. In cases where there is total occlusion of the bile, urobilin and urobilinogen are absent from the urine. Therefore, in severe icterus, absence of these substances in the urine is of value.

The differential diagnostic significance of urobilin is limited, because it is also found in a number of diseases of the gastrointestinal tract, as carcinoma of the digestive organs, scarlet fever, F. A. pulmonary tuberculosis and in cardiac insufficiency as an indication of passive

congestion of the liver. Eppinger points out that the finding of urobilinogen in the urine with circulatory insufficiency, when one is in doubt as to whether the insufficiency is of cardiac, vascular or renal origin, always indicates that the cause is cardiac. The reappearance of urobilinogen and urobilin after obstruction indicates that the bile ducts are again allowing the bile to pass through.

Naunyn has brought out the point that icterus is always a symptom of disease of the biliary ducts, as it is probable that the liver cells do not form bile pigments. Not every disease of the biliary ducts is accompanied by icterus. Until recently every form of icterus was considered to be of hepatogenous origin. The newest work, especially that of Van den Bergh, shows that the reticulo-endothelial system (Kupffer cells, spleen, lymph glands and bone marrow) has the property of forming bilirubin from the blood pigment, so that a hematogenous icterus is possible.

Van den Bergh showed that a small quantity of bilirubin in the blood is physiologic. The most important finding of Van den Bergh from the standpoint of differential diagnosis is that the bilirubin of hematogenous origin gives a different reaction from that excreted by the liver cells and reabsorbed. Hepatic bilirubin (direct) in the blood gives the diazo reaction for the direct demonstration of bilirubin in the blood without the addition of alcohol. The bilirubin which does not pass the liver shows a reverse reaction. On the basis of a direct or indirect Van den Bergh, one is able to tell whether the jaundice is hepatogenous (obstructive) or hematogenous (nonobstructive), respectively.

The Van den Bergh is really a qualitative test for the determination of bilirubinemia. Ehrlich's diazo mixture is added to the blood serum. A direct reaction speaks for an obstructive jaundice, while an indirect reaction speaks for a nonobstructive jaundice. In obstructive jaundice the blood serum changes from yellow to pink or violet (direct reaction). In the indirect reaction (nonobstructive jaundice) the serum is first treated with alcohol and then with Ehrlich's diazo mixture and a positive test gives a pink or violet color. This test is very easy and

can be done in your own office. A direct Van den Bergh always indicates an obstructive jaundice and occurs in conditions such as common duct stones, cirrhosis of the liver, carcinoma of the liver and carcinoma of the head of the pancreas. The indirect reaction is positive in both obstructive and nonobstructive jaundice, and the direct reaction is negative in nonobstructive jaundice. An indirect Van den Bergh occurs in such conditions as acute hemolytic jaundice, icterus neonatorum, cardiac decompensation, pernicious anemia, phosphorus poisoning, and jaundice occurring in the course of an acute infectious process such as pneumonia.

The icterus in cardiac disease has the following peculiarities, in that it occurs suddenly and lasts but a short time and is of hematogenous origin (indirect Van den Bergh).

The phenoltetrachlorophthalein (dye) test was first studied pharmacologically by Abel and Rowntree and was introduced into the practice of medicine as a liver function test by Rowntree and his collaborators, Whipple and Marshall, in 1913. The technic was improved upon by Rosenthal. The principle of the dye method lies in the disintoxicating function of the liver. After the intravenous injection of 5 mgs. of the dye per kilo of body weight, the normal liver removes the dye from the blood stream at a definite constant rate. At the end of fifteen minutes only 3 to 7 per cent. of the dye remains in the blood stream, and should be entirely gone in one hour. In hepatic disease the amount of dye still present in the blood one hour after injection and the increase above normal afford a quantitative index of the degree of functional impairment of the liver.

*Technic (dye):* Five mgs. of phenoltetrachlorophthalein are injected intravenously for each kilo of body weight. At the end of fifteen minutes and at one hour about 5 c.c. of blood are withdrawn and allowed to clot in test tubes and then centrifuged. Equal quantities of the serum from each specimen are then pipetted off into three small test tubes, and to two of these tubes a drop of 3 per cent. HCl is added (this clears the serum of any hemolysis). To the other tube a drop of 5 per cent. Na OH is added (makes red color with dye). The color is then compared with a standard colorimeter (made by Hynson-



Wescott & Company) and the readings are recorded.

### *Interpretation of Results:*

Time after injection	Normal per cent dye	
	in serum	Impaired function
15 minutes	3-7%	8-35%
1 hour	0-2%	3-35%
2 hours	0%	3-35%
24 hours	0%	1-10%

The icterus index is a quantitative test of bilirubinemia. The normal readings are 3-5. When bilirubin is not excreted normally, it accumulates in the blood and thus a higher reading is obtained. The blood serum is collected and compared with a colorimeter having as a standard a 1-10,000 potassium bichromate solution. The technic is simple, as are the dye and Van den Bergh tests, and can easily be done in the office.

The liver function tests should be used in all cases associated with jaundice. A direct Van den Bergh always speaks for an obstructive type of jaundice, while an indirect Van den Bergh always designates a hemolytic jaundice.

Very often one cannot differentiate a primary anemia from a secondary anemia. A primary anemia (pernicious anemia) always has a high icterus index (30+), while a secondary anemia has a normal count (3-5). If one wishes to differentiate an acute catarrhal jaundice from a carcinoma of the liver or head of the pancreas, icterus index readings will show that in the catarrhal jaundice the readings decrease from time to time, while in the malignant affair the readings increase.

Shattuck, Brown and Preston<sup>1</sup> have shown that in passive congestion of the liver (primary heart) all cases with an icterus index above 16 offered a poor prognosis.

Very often one is confronted with a case where it is impossible to differentiate between an appendix or gall bladder disorder or a peptic ulcer. A high icterus index (20+) usually speaks for a gall bladder infection and helps to clinch the diagnosis. We have had quite a number of cases in which the gastrointestinal symptoms were vague, and the physical findings, Roentgen-ray, etc., did not give the required information to make a diagnosis. A high icterus index in these

cases helped to clarify a chronic gall bladder disease.

Every case of syphilis that is being treated with arsenicals should have a liver function test (preferably an icterus index). A reading above normal informs one that the liver is being damaged by the arsenic and is an absolute indication to stop the treatment. A lowering of the icterus index reading in cases of syphilis of the liver that are undergoing treatment shows that the patient is responding to the therapy.

Not only are these tests of value to the medical man, but the surgeon can make good use of these. Very often a surgeon is confronted with an operative case in which jaundice is present, such as common duct stone, etc. One knows that these are the types of cases that suffer from post-operative hemorrhage, and that many men can report deaths following operative interference in cases with jaundice. In these cases an icterus index reading is of great importance. A high reading, such as 100 or more, is an absolute contraindication for operative interference. These cases should have repeated fractional blood transfusions (100 c.c. whole blood) with calcium chlorid intravenously (repeated if necessary). After this has been done and there is a marked reduction in the icterus index reading, then only is the surgeon warranted in operating.

### CONCLUSIONS

1. Every case of jaundice should have a liver function test.
2. The dye test and the icterus index are quantitative tests for bilirubinemia.
3. The Van den Bergh is a qualitative test for bilirubinemia.
4. A direct Van den Bergh speaks for an obstructive type of jaundice.
5. An indirect Van den Bergh speaks for a hemolytic or nonobstructive jaundice.
6. A high icterus index reading speaks for a primary anemia, in differentiation to a secondary anemia.
7. A high icterus index (20+) in a vague gastro-intestinal case when one wants to differentiate between a peptic ulcer, appendix and a gall bladder disorder, always speaks for a pathological gall bladder.
8. Heart cases showing an icterus index of 16 plus offer a poor prognosis.
9. All cases of syphilis that are undergoing

1. Shattuck, Brown and Preston: Studies of the Icterus Index, American Jour. Med. Sci., October, 1925, 591.

specific therapy should have a liver function test to see whether or not any damage is being done to the liver.

10. All operative cases associated with jaundice should have a liver function test to see whether or not they are good operative risks.

11. An icterus index that is decreasing speaks against a malignancy, and vice versa.

12. The finding of urobilinogen in the urine with circulatory insufficiency, when one is in doubt as to whether the insufficiency is of cardiac, vascular or renal origin, always indicates that the cause is cardiac.

13. These tests are comparatively simple and can be done in the office if necessary.

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### GANGRENE OF THE SCROTUM DUE TO SELF-INDUCED RUPTURE OF THE URETHRA\*

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CHICAGO

Gangrene of the scrotum is a serious surgical problem and becomes more so when the etiological factor is not readily determined. The most dangerous type is that complicated with extravasation of urine, not only because the urine has a necrotic action upon the tissue but a severe intoxication is caused by the absorption of the urinary products. The case herein presented is unusual in that there was a rupture of the urethra without any instrumentation or trauma.

*Case Report*—The patient, aged 37, an Italian who has resided in America for 20 years. He has been married 10 years but has no children. At the age of 27 he suffered a mild gonorrheal infection, which lasted six weeks.

On January 6, 1927, he became ill and complained of pain in his lower back, headache and difficulty in urinating. A physician was called and diagnosed the case as intestinal flu. He was advised to force elimination of urine by pressing on his lower abdomen, which he did twice each day. Two weeks after the onset of his illness, he noticed a swelling of his abdomen and passed decreasing amounts of urine for the next three or four days. Severe obstipation was associated and caused intense distress. The patient conceived the idea of expressing the bowel content and urine by drinking a quart of olive oil but obtained no result. Failing in this, he got out of bed and put a belt around

his body and placed his hands beneath the belt with the palms against the lower abdomen. After taking a deep breath, he mustered every ounce of energy and so forcibly pressed against his distended abdomen that he effected a profuse bowel evacuation. Urine also came away. A few seconds later he fell to the floor in a faint because of pain and weakness. On the next day he noticed a swelling of the scrotum and was desperately ill during the following week.

On admission to the hospital, the patient was in shock; his temperature was 98.6. White count 15,000, hemaglobin 70%; R. B. C. 3,800,000. The urine was turbid, due to a profuse growth of bacteria. The scrotum was about four times the size of a man's fist, and brownish black in color. Hot boric dressings were applied to the scrotum. On the next day he was removed to the operating room and three longitudinal incisions were made in the scrotum, each about 8 cm. in length; one in the center and one on either side of the median raphe at a distance of 3 cm. After making the skin incision, a gristly mass, 2 cm. in thickness was encountered. When this was incised, a thick, foul-smelling, greenish pus oozed out. While effecting communication between the three incisions a sac was encountered which contained about an ounce of a thin amber colored fluid resembling urine. Several necrotic masses of tissue were removed and drains inserted. Hot boric dressings were applied. The patient was improved on the following day and took some nourishment. Smears and culture from the pus showed colon bacilli.

However, the foul odor did not lessen and it was felt that a more effective method of combating the infection must be employed. Dakin tubes were inserted into the incised areas and pulled through the gangrenous tissue so that every possible portion of the diseased tissue would be bathed in Dakin fluid. Six Dakin tubes were inserted and every two hours the nurse flushed two ounces of Dakin fluid through each tube, thus allowing thorough saturation with hypochlorite solution. Improvement immediately followed and within a few days the wound had a healthy appearance. Three weeks later the scrotum was reduced to almost normal size, and the patient went home.

Though the local condition was healed, the patient continued to run a septic temperature around midnight which ranged from 100° F. to 102° F. A blood culture was negative, though his rapid pulse, profuse midnight sweats, weakness and dyspnea on slight exertion pointed to a septicemia. The patient gradually lost ground and manifested evidence of a failing heart due to sepsis. Three months later he died from an endocarditis and general sepsis.

The only finding which could account for the difficulty in urinating was a large stricture located in the membranous urethra. We repeatedly questioned the patient regarding any possible urethral instrumentation and we were satisfied that his urethra had not been mechanically traumatized. However we obtained the

\*Read before the South Side Branch Chicago Medical Society, February, 1927.)



admission that he had consulted physicians for the cure of his sterility but as their treatment did not restore his virility he resorted to drinking his own medicine, which consisted of home-made wine. It is quite possible that an over ingestion of alcohol increased an already existing posterior urethral inflammation and caused the stricture to partially block the outflow of urine. The presence of urine in the tissue adjacent to the urethra must have necessitated a rupture of the urethra.

#### REVIEW OF LITERATURE

A search through the literature reveals gangrene of the scrotum to be an exceedingly infrequent affection and in the entire German literature Coenen and Przedbarski<sup>1</sup> were able to find but 200 cases. Their classification is as follows:

Gangrene following.

#### I. General Diseases:

##### (a) Infections:

Influenza.  
Erysipelas.  
Pneumonia.  
Malaria.  
Typhus.  
Cholera.  
Tonsillitis.

##### (b) Diseases of Metabolism:

Diabetes.

##### (c) Diseases of Vascular System and Kidneys:

Decompensated heart lesion, arteriosclerosis.

This group includes 15% all cases.

#### II. Local Diseases:

Chancroid.  
Phimosis.  
Orchitis.  
Balanoposthitis.

Stirling<sup>2</sup> reports a case following circumcision.

This group includes 70% of all cases.

#### III. Mechanical conditions:

- (a) Urine infiltration due to trauma, cutting urethral structure, etc.
- (b) Application of chemicals to scrotum.
- (c) Heat.
- (d) Frostbite.
- (e) Strangulation of scrotum, artificially induced.

This group constitutes 15% of all cases.

MacKenzie<sup>3</sup> reports the case of self-induced scrotal gangrene in a man who had a double scrotum. To rid himself of the defect, he tied the lobes of the scrotum together. Gangrene

ensued which necessitated amputation of the scrotum.

Cases of scrotal gangrene have been termed idiopathic when the initial lesion was distantly removed from the scrotum as in Castle's<sup>4</sup> case, where it followed a tonsillar infection. Spontaneous gangrene of the scrotum is the designation chosen by Schonbauer<sup>5</sup> to refer to that group in which the initial lesion can not be demonstrated.

A great many organisms have been isolated from scrotal gangrenous tissue. Thibault and Schulman<sup>6</sup> obtained a culture of bacilli perfringens (Welch) from their case and successfully employed the serum of Weinberg and Seguin. The bacillus of malignant edema, streptococci, Ducrey's bacillus, colon bacillus, gram positive anaerobic bacilli and cocci, and Vincent's organisms have also been isolated.

#### COMMENT

Undoubtedly, the rupture of the urethra occurred just behind the strictured site, for in this area the urethral mucosa was softened due to long continued inflammation.

A rupture of the urethra may occur without instrumentation.

Wide incision and the institution of Dakin irrigation and drainage is an efficient method of treating the gangrenous scrotum.

An external urethrotomy should be done in all cases of gangrene of the scrotum associated with extravasation of urine or stricture. This prevents further absorption of urinary toxic products. No urethrotomy was done in that case because no history was obtainable prior to the operation, and there was no gross hindrance to the diagnostic bougie.

The mortality of scrotal gangrene is high and has been estimated from 23% to 33%.

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## SPONTANEOUS OVARIAN CYST

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A review of the literature relative to spontaneously appearing and disappearing ovarian cysts yields scant information. Nevertheless the condition is probably not as infrequent as the evidence indicates. Tait,<sup>1,2</sup> was aware of it, but always attributed the disappearance to rupture of the cyst. Wells<sup>3</sup> considered spontaneous cures of so-called ovarian cyst as cases of pelvic cellulitis that had undergone resolution. Ries<sup>4,5</sup> has reported three cases that came to operation and Stein<sup>6</sup> has described one case. No other references to this apparent clinical entity can be found.

The patient I wish to report has been under observation for two years and ten months. A well developed female, aged 28, unmarried, was first seen February 8, 1924. Her chief complaint was pain in the left lower quadrant, more pronounced when standing or walking, and of three months' duration. The pain had gradually increased in severity until at the time of examination she was unable to work. She was a waitress and this required her to spend several hours a day lifting and carrying trays.

The general and pelvic history was negative. Menses began at thirteen years, regular, painless, twenty-eight day type, and of four to five days' duration. There was no evidence of pelvic infection.

Bimanual examination revealed a smooth, movable, globular mass at the left side of the uterus, apparently the size of a grapefruit. A patency test of the fallopian tubes registered 50 to 55 mm. pressure of mercury and was followed by a roentgenogram of the pelvis. The plate showed an ovarian cyst on the left side. Operation was advised and the patient returned home to make preparation to enter the hospital.

Two weeks later she reported at the office, feeling perfectly well. There had been no pain or discomfort for several days. Upon bimanual examination I was unable to palpate a mass or elicit any tenderness.

She returned to work and did not consult me again for four months, at which time there was a distinct mass on the left side but smaller in

size than the one felt at the first examination. After two weeks' rest away from work no swelling could be made out. This time I advised her to find work that would not require lifting and standing. The suggestion was accepted and eight negative examinations were made in the following two years. At an office visit in September, 1926, a left-sided mass, the size of a fist, was distinctly palpable, and she admitted having returned to her previous occupation. A three weeks' vacation was followed by several negative examinations. Recently the patient has married. She will continue under observation.

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## SPOROTRICHOSIS CASE REPORT

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While many cases of sporotrichosis have not been placed on record, it is still a rare disease and in the United States to date 148 cases have been placed on record. Foerster of Milwaukee has recently made a survey of these cases and reported the results of his study in the Journal A. M. A., 87:1605-1608, Nov. 13, 1926. The first case was described by Schenck in 1898 (Bull. Johns Hopkins Hosp., 93:286, 1898), and since his time cases have been described by Hektoen and Perkins, Hyde and Davis, Stelwagon, Pusey, Sutton, Hamburger, Wilder, McCullough and others.

The following case illustrates very well the importance of the barberry shrub in the etiology of sporotrichosis:

The patient, a white man, age 48 years, a *gardener*, was admitted to the surgical service of Cook County Hospital, Dec. 10, 1925, complaining of what he called multiple boils of the right forearm.

About eighteen days previous to his entrance to the hospital he noticed on the volar surface



of the right forearm near the wrist, a lesion which he described as a boil and which he opened and expressed grayish-yellow pus on several occasions. About a week later a similar lesion appeared on the volar surface of the right forearm, about two inches proximal to the original mass. For the next ten days similar lesions appeared in succession up the right forearm and arm. One of them broke open spontaneously and discharged a grayish-yellow pus. There was no pain associated with any of the lesions.

Questioned as to any past history of trauma to the right upper extremity he recalled that about two weeks preceding the appearance of the initial lesion on his wrist, he had punctured his right hand several times with the thorns of the barberry shrub which he was trimming.

On admittance, physical examination revealed an adult white male about 45 years of age, fairly well nourished and not acutely ill. His temperature was 98.6 F., pulse 78 and respirations 20 per minute.

On the center of the volar surface of the right forearm and arm were a series of hard nodular masses about two inches apart, arranged in a straight line. The masses were circular, dull red, raised, circumscribed, and varied in diameter from a pea to a twenty-five cent piece. The lesions on the forearm were larger than those on the arm. Connecting each mass was a hard palpable cordlike line, suggesting lymphatic involvement. Several of the lesions were crusted, others open and discharging a grayish-yellow material like pus. The masses were not painful or tender on palpation and the axillary lymph nodes on the right side were only slightly palpable.

The rest of the physical examination was essentially negative except for three external hemorrhoidal tags. The urine examination was negative and the blood cell counts within normal limits. There was no history of tuberculosis or syphilis and the x-ray plate of the chest was negative as well as repeated blood Wassermanns.

On microscopic examination of material aspirated directly from one of the lesions, there were oval-like bodies which suggested sporothrix. Guinea pigs and white rats were inoculated with the aspirated material and cultures made on carbohydrate media. Agglutination reactions also were studied. The bacteriologic study

proved that we were dealing with a sporotrichotic infection.

The patient was treated at the beginning with thirty grains of potassium iodide daily by mouth. The doses were gradually increased until he was receiving 120 grains daily. Locally nothing was done except to keep the lesions dressed with dry sterile pads which were changed daily. This treatment was continued for two months at the end of which time his lesions had practically all cleared up. His general health during his stay in the hospital was very good, being up and about every day and at no time did he have any fever or any complaints, except his arm condition. At the end of two months he was discharged and advised to take thirty grains of potassium iodide daily for one month when he was to return. Examination since that time has revealed no recurrence and the lesions have entirely healed. For the bacteriologic work in this case I am indebted to Miss Bertha Kaplan, Bacteriologist at the County Hospital.

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### THREE YEARS OF EXPERIENCE WITH INSULIN IN THE TREATMENT OF DIABETES MELLITUS

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Insulin became available for our use in October, 1922. Since that date we have had about four hundred diabetics under observation and of this number about one-half have needed insulin.

The benefits of insulin to the diabetic may be classified under three heads:

First: It has prolonged the span of life of all classes of diabetics: The severe cases, those who could not tolerate their basal calories and who, before the days of insulin, died in a relatively short time are now able to tolerate sufficient calories to enable them to gain weight and even to resume their duties, if not too rigorous. The moderately severe cases, those who could tolerate their basal calories and perhaps a small additional amount of food, but necessarily lost weight if pursuing any active occupation, are now able to carry on active duties and support families. The mild cases, those who are fat or above normal weight, have need of insulin only at times

of emergency, such as when infection is present, during cerebral accidents and at times when operations are necessary. Before the days of insulin many mild diabetics died when some one of these complications was present.

In the first two classes the use of insulin has prevented under-nutrition and, in our experience, a high percentage of these, say 20 per cent or more, have some form of chronic infection, especially tuberculosis. The prevention of under-nutrition in diabetics increases their resistance against these chronic infections. It seems not an exaggeration to say that insulin adds five or ten years to the life of a diabetic.

Second: Just as important as the prolongation of life is the saving of economic waste which is made possible by the use of insulin. It was indeed distressing, in pre-insulin days, to see the number of diabetics who were unable to take an economical place in society, being completely dependent upon other people and often unable to prepare their own diets. Now these same patients are not only able to pursue their occupations, but are able to do more work. I have in mind the case of a man who has been under observation for four and a half years. At the beginning of our observations, he was in the position of assistant cashier in a bank and was hardly able to do his work; he had sugar most of the time, and was thoroughly discouraged. For the past three years, with the help of insulin, he has not only been able to keep his former position, but has recently been promoted to the position of cashier with considerable added responsibility.

Third: The greatest benefit which insulin could bestow upon the diabetic would be the cure of his disease. During the first year or two of our experience with insulin we felt that it was not a cure for diabetes. The only cases suitable for study in determining whether the use of insulin will make possible the regaining of the ability of the islet cells to produce their own insulin, are the young, severe cases. We know what happened to these in the pre-insulin days. The gaining of tolerance in such cases was extremely rare and death usually ensued in a few years at best. I wish to present three cases of the above type, which I have been observing for from four to five years. Interesting changes have taken place in these patients during the past year.

CASE 1. Miss T., nurse, 24 years old. Sugar was

discovered in the urine while in the hospital in charge of the diabetic ward, about a year and a half before insulin was available. In treating this case blood sugars were taken twice a week and whenever the blood sugar rose to .15 the diet was decreased correspondingly. Following the onset of the disease, the patient gained in tolerance up to 100 grams of carbohydrate, during a period of about four months, and then in spite of reduction in diet before glycosuria, tolerance was lost and the carbohydrate was cut from 100 grams to 30 grams. Just before insulin was available, she was taking a diet corresponding to her basal calories and sugar was present in the urine. With 50 units of insulin a day and 1,800 calories, she gained in weight from 90 to 115 pounds and in two years was able to resume her occupation. Six months ago she began to have violent insulin reactions. The blood sugar during one of these reactions was found to be .06. The insulin was reduced ten units at a time, and at present she is taking 1,800 calories, of which 50 grams is carbohydrate, and only 25 units of insulin. Here we have a clear cut instance of the failure of a dietary treatment even under the very best of circumstances, for this nurse for one whole year took all of her meals in the metabolism ward of the hospital; and also, accompanying the use of insulin, an increased production of insulin on the part of the patient's own islet cells.

This would suggest that insulin is different in one respect from our endocrine hormones. For instance, it is well known that when thyroid is given by mouth, the function of the thyroid gland of the animal decreases rather than increases.

CASE 2. Mrs. M., 38 years old. Came under observation one year before insulin was available. During that time patient lost weight until she reached 85 lbs. There was also evidence that she has chronic fibroid tuberculosis. Her diabetes was of the severe type, being unable to keep sugar free except when the diet contained only about 1,000 calories. With the use of insulin patient gained from 85 to 116 pounds; requiring 55 units daily on a diet of 1,800 calories. She took this amount of insulin and this diet for two years and then began, just as Case 1. to have insulin reactions. 20 grams of carbohydrate was added to the diet and the insulin reduced to 35 units per day.

CASE 3. Mrs. N., 21 years old. Also under observation for a year preceding the advent of insulin. This patient had sugar in the urine on a very rigid diet of approximately her basal calories. She required 50 units of insulin a day with a food intake of 1,800 calories. During the past three years she has not gained weight, owing to a highly fastidious appetite, but, just as in the other two cases, she has had insulin reactions and we have been able to add 30 grams of carbohydrate to her diet. The insulin dosage in this case has been cut to 40 units.

In all of these cases the patients have remained sugar free for three years. We have not experienced any gain in tolerance like those cited



above in patients, who although taking insulin have a great deal of sugar in the urine. The experience of others may differ from ours. If one of the causes of diabetes is overwork of the islet cells, and there is reason to believe that this is the case, then it is far better treatment to keep patients sugar free when they are receiving insulin. If, through the proper balancing of insulin and diet, the islet cells, after months or years regain their ability to produce insulin, then it would seem that it is just as important to keep patients sugar free now as was before the advent of insulin. In other words, remove the strain on the islet cells and they gain in function. We now believe that insulin has enabled us to partially cure diabetes, and it may be that the future will show that these same cases which I have cited will be able to live without insulin, or on very small doses. Many mild cases are able to discontinue the use of insulin after a few months, but we have noted that when there are indiscretions in diet and sugar appears in the urine, the patients must again resume the use of insulin.

LIMITATIONS OF INSULIN

It is not possible to imitate with a hypodermic needle the automatic regulation of insulin secretion which operates in the normal individual. The evidence is strong that the rise in the blood sugar which follows each meal is the stimulus for insulin secretion. If we could know what the blood sugar is at at any moment of the day we could more accurately determine the size of the insulin dose and the proper time of administration. Any rules laid down here are drawn from our experience with the average patient. The application of these rules to the individual case may not result satisfactorily. The Toronto observers have recommended that insulin be divided into three equal doses and given one-half hour before each meal. This method has not produced satisfactory results in our hands. Time and again patients have sugar during the morning hours, that is from 6 a. m., to 10 or 11 a. m.; and then are sugar free the remainder of the day. Because of this fact, it has been our custom to give a larger dose of insulin in the morning and to give this dose as much as an hour before breakfast. In most cases we have seen the sugar appear in the urine before the patient eats the first meal. It has been found by ourselves

and others, that the noon dose may be omitted and, in the majority of cases, the second dose may be given about one hour before the evening meal. If, under these conditions, the patient is having sugar in the early morning hours followed by an insulin reaction at 11- or 12 o'clock, it is our custom to give a small dose just as late at night as possible, in order to keep the morning blood sugar under control until the first large dose is administered.

TABLE 1.  
Time of administration and division of total 24-hour dose.

Units	7 A. M.	5 P. M.	10:30 P. M.	12:00 M.
10	10	....	....	....
20	20	....	....	....
30	20	10	....	....
40	25	15	....	....
50	25	15	10	....
60	30	20	10	....
70	35-40	20-25	10	....
80	40-45	25-30	10	....

Table 1 shows the usual division of the dose of insulin. This method is not peculiar to our own clinic, but is used in many others. Often patients have insulin reactions at one time and sugar in the urine at another time during the day. Under these circumstances it is best to collect the urine in three or four hour periods and determine at what time sugar is excreted. The insulin dose which is to control this glycosuria should be administered at least an hour preceding the beginning of sugar excretion. After the insulin administration has been satisfactorily arranged, the patient may remain sugar free for a time, but we cannot be assured that he will continue so indefinitely. We have seen patients who after continuing for a year on one satisfactory arrangement require a readjustment of the size of dose and time of administration to prevent glycosuria or insulin reactions. An example of this is a patient who kept sugar free when given insulin in the following doses:

7:00 A. M. ....	25 units
5:00 P. M. ....	15 units
10:50 P. M. ....	10 units

This arrangement remained satisfactory for one year, then rather suddenly she began to have insulin reactions at 2 o'clock in the morning and sugar was always present in the later morning hours. One could not give the dose later at night without an insulin reaction. A satisfactory arrangement was as follows:

5:30 A. M. ....	20 units
11:00 A. M. ....	15 units
5:00 P. M. ....	10 units

We have had no fatalities from insulin reaction. It is only when the 24-hour dose of insulin amounts to more than 20 units that any serious reactions are apt to occur. It is of value that each patient have a slight reaction at some time in order that he may know what an insulin reaction is. After a reaction has once been experienced there is little difficulty in recognizing it again. Some form of sugar, such as orange juice, is taken when prodromal symptoms are felt. However, it is possible for a patient to become mildly delirious and not capable himself of taking carbohydrate. To our minds the gravity of insulin reactions has been rather over emphasized. The excessive gain in weight which may follow the use of insulin is of much more serious import.

Beaumont Bldg.

#### DIET RICH IN LIVER IN TREATMENT OF PERNICIOUS ANEMIA

Of the 105 cases reported on by George R. Minot and William P. Murphy, Boston (*Journal A. M. A.*, Sept. 3, 1927), ninety were placed on the diet at a time when the counts of their red corpuscles were below 2,700,000 and averaged 1,480,000 per cubic millimeter, and the other fifteen commenced the diet when their red blood cell counts were above 2,800,000 per cubic millimeter. In almost all instances the response to feeding liver was prompt, and the patients rapidly became better. Their blood has remained, with few exceptions, in very satisfactory condition. All the patients are living except three. One died from an unknown cause about four months after commencing the diet, with marked degeneration of the spinal cord. His red blood cell count was 4,300,000 per cubic millimeter a month before death. Another, whose blood had improved less than that of any other patient in the series, died at the age of 71 from cerebral thrombosis fifteen months after he began with the diet. The third patient, after eating liver daily for two years, was killed in an automobile accident. Her red blood cell count had risen promptly and remained above 4.5 million per cubic millimeter to the time of the last count, made two weeks before her death. The diet taken by the 105 patients includes, besides large amounts of liver (200± Gm. cooked weight a day), generous amounts of fruits and vegetables, containing especially from 5 to 10 per cent of carbohydrate, and red muscle meat. It was advised that the diet contain less than 70 Gm. of fat, little sugar, and that concentrated carbohydrate food and milk never be included to the exclusion of desired foods. Cooked liver may be served in any way that pleases the patient, but prolonged boiling is to be avoided. The broth in large amounts is effective. Mam-

malian liver is possibly more effective for these patients than that of fowl. Kidneys can also promptly increase the reticulocytes and numbers of red blood cells in pernicious anemia, and thus may be substituted for liver. Raw liver is perhaps more efficacious than cooked. It may be given as finely divided liver pulp. Many patients have preferred raw liver pulp to cooked liver, as they look on it more in the nature of medication than food. This is because it is simple to take and can be rapidly swallowed. The authors have prescribed often about 180 Gm. of the prepared pulp (about equal to a similar amount of cooked liver) a day, divided into two portions and taken mixed with orange juice or water, midmorning and midafternoon. This requires the patient to drink only about 500 cc. of the mixture a day. The juice pressed from raw liver is efficacious in large amounts. The possibility of infection with parasites seems remote. If necessary, liver may be administered by a stomach tube. Very sick patients so treated have shown a remarkable and rapid improvement. The problem of how much liver the patient should continue to eat after his red blood cell count is normal remains unsolved. Under these circumstances, some have taken only 150 Gm. three times a week. It appears, however, that some patients require more than others to keep them in the best condition. Perhaps an excess of liver or fraction of it can undesirably force the delivery of cells from the marrow, and hemoglobin formation may fail to keep pace with cell production. The first patients treated often took 120 or more grams of red muscle meat a day. Many have taken much less. However, it seems wise that the patients include in their diet at least a liberal amount: 70 Gm. a day. It is advised that fruits and green vegetables be prescribed in generous amounts, and if gastro-intestinal symptoms demand it, strained or in the form of a puree. Excess of fat will not inhibit a rapid growth of red blood cells in pernicious anemia. In large amounts it may upset the digestion, cause undesirable gain of weight, and for theoretical reasons it may be harmful for patients with pernicious anemia. Thus fat, perhaps, should be taken moderately, except by thin individuals. Sweet and soggy starch foods often intensify colonic indigestion, a condition frequently present, and as they have no particularly favorable effect on blood formation, they should be curtailed. The diet for each patient should be prescribed for that given person and must contain large amounts of liver or its equivalent and foods to supply liberally, but not excessively, all the requirements of the body. Successful treatment demands caring for the patient—not prescribing for his case. In the cases analyzed, symptomatic improvement has been marked. Appetite has improved rapidly and gastro-intestinal symptoms have decreased quickly. The tongue has often become normal in appearance. However, achlohydria has persisted in the eighteen patients examined. Improvement in neural symptoms has been most gratifying to the patient, and such symptoms have not definitely progressed or developed under adequate dietary treatment.



## RADIUM IMPLANTATIONS IN ESOPHAGEAL CANCER

Joseph Muir, in *Laryngoscope*, September, 1927, says:

Cancer of the esophagus is generally regarded as the most hopelessly incurable of malignant lesions. None of the forms of treatment which have proved successful in combating cancer elsewhere in the body have heretofore been possible of application to the esophagus. Radium has been even less beneficial than surgery. Three prime drawbacks to this use of radium have always existed; first, the difficulty of placing it accurately; second, the practical impossibility of maintaining it in position long enough to be effectual, and third, the great danger of burning the tissues, which will induce sloughing and fistula into the mediastinum—invariably a fatal accident.

To obviate these difficulties the author has elaborated a technique of radium implantation through a specially designed esophagoscope which can be readily carried out by anyone experienced in the use of this type of instrument. The field of operation is illuminated and an implanter passed through the tube, so that each radon seed may be placed in full view, and the entire lesion accurately mapped out and evenly implanted. The radioactive center employed is a removable platinum radon seed, which offers the double advantage of being so screened that it will not induce necrosis, and the possibility of removal by means of an attached thread so that no foreign bodies are left in the tissue after the contained radium emanation has entirely decayed. The entire procedure is facilitated if done under the fluoroscope, though this is not absolutely essential.

The results in the small series of cases so far treated by this method have been highly gratifying, and although no permanent results can be reported before the lapse of five years, the author feels that the method merits a wide trial, even if it proves to do no more than prolong lives which otherwise will be very shortly terminated.

## WHEN PETE'S WIFE BROKE HER LEG

This young Texas cowboy had spent his life on the Western range. His were the instincts of the cattle man, his the experiences of one who rides behind the long horn through all the seasons. Cows were his life, and all he knew that was of any account was his knowledge of cows.

And then he got married. He brought home a wife from the neighboring county where he had gone to ride in a rodeo, and he exhibited his female with all the pride and gusto of the male of the species. And they got along fine. Every one that saw them told of their devotion and their happiness. There was not a cloud on their horizon, it seemed, and the whole world smiled at them.

But one day the young bridegroom came rushing over to the ranch-house of his nearest neighbor, and there were tears streaming down his cheeks, sobs fairly bursting his breast, and he dropped onto the neigh-

bor's porch manifesting every emotion that spelled distress in large letters. The shocked neighbor came running to him, raised his head, and inquired the trouble.

Pete sobbed. "It's the wife," he finally gulped out. "She fell down stairs this morning and broke her leg, and Oh! How I hated to shoot her!"—*Patchwork*.

## Society Proceedings

### ADAMS COUNTY MEDICAL SOCIETY

November 12, 1927 the regular monthly meeting of the Council was held at the Elks' Club, Quincy, with 8 members in attendance.

The plans for the big meeting on November 14 were discussed in a general way. Dr. Wells reported for the committee that was appointed to investigate a newspaper advertising campaign for the society and asked for more time before making a final report. Dr. Wells made a motion that the December meeting of the council be dispensed with unless such meeting was thought advisable by the President and Secretary. Dr. Bitter discussed applications for membership in the society. Dr. Center made a motion that the qualified applications for membership be investigated by the Board of Censors with the President of the society as ex-officio member of that committee. Dr. Bitter brought up the matter of physicians making free examinations of members of the Quincy Y. M. C. A. Dr. Wells made a motion that the Council not approve of the members of the Adams County Medical Society making free examinations of the Quincy Y. M. C. A. members, except in indigent cases. Dr. Center made a motion that Dr. Bitter be instructed to inform the Y. M. C. A. officials that they give their members a physical examination card and ask them to take this to their family physician in order that the proper physical examination be made.

November 14, 1927. This was the annual all-day meeting of the Adams County Medical Society. At 8:00 A. M., 23 Quincy physicians gave a breakfast at the Hotel Quincy to our distinguished guests, Dr. J. N. Jackson, President of the American Medical Association, of Kansas City, Dr. R. L. Sutton, Professor of Dermatology, University of Kansas School of Medicine and Dr. W. W. Duke, former Professor of Experimental Medicine, University of Kansas School of Medicine.

At 9:20 A. M. at the Elks' Hall the President of the society called the meeting to order and Honorable Charles L. Weems, Mayor of Quincy, welcomed the visiting physicians to our city. Dr. W. W. Duke gave an interesting address on the Anemias, illustrating his talk with one case of pernicious anemia. Dr. R. L. Sutton conducted a clinic on dermatology and showed about 20 patients suffering from different skin lesions. Dr. J. N. Jackson gave a very interesting talk on Tumors of the Breast and showed one clinical case.

At 12:00 noon the visiting physicians had luncheon

with the members of the Quincy Kiwanis, Rotary, Lions and Exchange Clubs at the Elks Restaurant and there was a total of 215 present. After the announcements by the various club Presidents the meeting was turned over to Dr. Swanberg, who introduced a number of visiting physicians together with the officers of the society and finally our distinguished guests, Drs. J. N. Jackson, R. L. Sutton and W. W. Duke, each responding with very appropriate talks applicable to a lay audience.

At 2:05 P. M. the Scientific session was again called to order and Dr. W. W. Duke gave a very classical address on "Allegory" in all of its various manifestations. The discussion of this paper was led by Dr. Frank Cohen and was further discussed and questions asked by a large number of physicians. Dr. R. L. Sutton then gave a very interesting talk on the "Diagnosis and Treatment of Cancer of the Skin," which was illustrated by numerous lantern slides. The discussion was opened by Dr. J. R. Pollock followed by a number of other physicians. Dr. J. N. Jackson then gave a very fine address on "Acute Gangrenous Retrocecal Appendicitis." The discussion was opened by Drs. W. W. Williams and H. J. Jurgens, followed by numerous other physicians. The meeting did not adjourn until about 5:45 P. M.

At 6:15 P. M. a banquet was served at the Elks Club Restaurant and Dr. C. D. Center again demonstrated his ability as an excellent Toastmaster. Dr. J. N. Jackson, Dr. W. W. Duke, Dr. R. L. Sutton of Kansas City, Dr. E. S. Smith of Kirksville, Mo., Harold M. Camp of Monmouth, Ill., Dr. E. P. Coleman of Canton, Ill., and Dr. Harold Swanberg responded to toasts.

At 8:00 P. M. the members adjourned to the lodge room of the Elks where Dr. R. L. Sutton gave a very interesting discussion on his adventures of hunting tiger in Southern Asia, which was illustrated by 300 lantern slides. At the conclusion of this lecture about 50 physicians were the guests at a Stag Party and Smoker at the residence of the Secretary of the society.

At least 150 attended the scientific sessions.

HAROLD SWANBERG, M. D.

Secretary.

## BUREAU COUNTY

The fall meeting of the Bureau County Medical Society was held November 10 at St. Margaret's hospital in Spring Valley. Dinner was served at 12:30 at the hospital by courtesy of Mother Superior Magdalene. Following the dinner a business session was held and at two o'clock the scientific program was given as follows:

"Toxemias of Pregnancy"—Dr. F. L. Heinemeyer, Rockford. Discussion led by Drs. Miltenberger and Scanlon.

"Fractures"—Dr. Henry Bascom Thomas, Chicago. Discussion led by Drs. Moran and Kirby.

This program is in line with that being planned by the Scientific Service Committee of the Illinois State Medical Society whereby each county medical society

will make a study of obstetrics. A medical speakers' bureau has been arranged and thus it is possible to bring the latest and best information on maternal and child care to doctors over the state. The Society is doing this in the face of a proffered federal subsidy, recently refused, whereby under the Shepherd-Towner act such medical information would come under federal supervision and control. The Society believes that the statewide cooperative movement, as planned, will be more effective than a federal bureaucratic measure and without cost to the taxpayer.

## COOK COUNTY

Regular Meeting, November 16, 1927.

1. Preliminary Report. Transplantation of the Urether. Lantern Slide Demonstration.  
.....Charles Morgan McKenna
2. The Myth of So-Called Catheter Cystitis.  
.....Hugh Cabot, Ann Arbor, Michigan.  
Discussion .....Frank Phifer, Vincent J. O'Connor  
Chicago Medical Society.

Symposium on Poliomyelitis, November 9, 1927.

1. Clinical Manifestations in Children.  
.....George W. Baxter
  2. The Diagnosis and the Manifestations of the Disease in Adults.....Peter Bassoe
  3. The Treatment of Poliomyelitis..Archibald Hoyne
  4. Orthopedic Treatment of Infantile Paralysis.  
.....E. W. Ryerson
- Discussion.

Regular Meeting, November 30, 1927.

1. The Relation of the Medical School to the Profession—Irrving S. Cutter, Northwestern University Medical School.
2. The Relation of the Medical School to the Community—Franklin S. McLean, University of Chicago Medical Department.  
Discussion—H. A. McGuigan, University of Illinois College of Medicine.  
L. D. Moorhead, Loyola University College of Medicine.

## Marriages

LEROY E. ELLISON, Vermont, Ill., to Miss Rose B. King, at St. Louis, October 19.

THOMAS EUGENE KEAVENY, Keithsburg, Ill., to Miss Lenore Florentine Lane of Cascade, Iowa, in Omaha, October 23.

RICHARD K. KIMMEL, Decatur, Ill., to Miss Melba Mauer of St. Louis, October 10.

## Personals

Dr. Gustavus M. Blech has been reappointed colonel in the medical officers' reserve corps of the army.

Dr. Albert N. Mueller has been appointed city



physician of Rock Island to succeed the late Dr. Joseph R. Hollowbush.

Dr. Ethel R. Harrington has been appointed to the staff of the division of child hygiene and public health nursing of the state department of health.

Dr. Elmer B. Coolley, Danville, was elected president of the Illinois Tuberculosis and Health Association, October 25, to succeed Dr. John P. Denby, Carlinville.

Among others, Dr. Alfred P. Solomon addressed the Chicago Neurological Society, November 17, on "Case of Periodic Somnolence: Report of Study and a Major Operation Under Hypnosis."

Among others, Drs. Edmund Andrews and William A. Thomas addressed the Chicago Society of Internal Medicine, City Club, November 28, on "Mechanism of Nephritis."

Dr. Earle H. Thomas was elected president of the American Society of Oral Surgeons and Exodontists at the annual meeting, recently, in Detroit, and Elmer C. Hume, D.D.S., Louisville, Ky., was made president-elect.

Dr. C. Macfie Campbell, professor of psychiatry, Medical School of Harvard University, Boston, delivered the eighth Pasteur lecture (illustrated) before the Institute of Medicine of Chicago at the City Club, November 18, on "Some Problems of the Functional Psychoses."

Dr. Carl H. Davis, Milwaukee, gave a motion picture demonstration before the Chicago Gynecological Society at 50 East Erie Street, November 18, on "Management of Labor," and Dr. Jacob L. Bubis, Cleveland, read a paper on "Gyneplastic Repairs of Old Lacerations Following Childbirth."

Dr. Nathan P. Colwell, secretary of the Council on Medical Education and Hospitals of the American Medical Association, addressed a staff meeting of the St. Vincent's Hospital, Toledo, Ohio, September 29, at a dinner, on advances in the education of interns.

Dr. Sven Ingvar, docent in neurology, University of Lund, Sweden, lectured, November 16-17, at the University of Chicago Clinic, under the joint auspices of the Institute of Medicine of Chicago and the department of neurology of the university on "The Cerebellum: Anatomic and Clinical Studies."

A dinner was given by members of the Chi-

cago Medical Society at the Stevens Hotel, November 16, in honor of Dr. Hugh Cabot, dean, University of Michigan Medical School, Ann Arbor, preceding his address before the society; Dr. Cabot in the afternoon addressed the Medical History Society at the University of Illinois College of Medicine.

Dr. Julius H. Hess addressed the Chicago Tuberculosis Society, November 17, on "Some Phases of Tuberculosis Work Seen in Scandinavia"; Dr. Benjamin Goldberg, "The Changing Picture in Childhood Tuberculosis," and Dr. Simon L. Berman, "Tuberculin Diagnosis with Special Reference to Pirquet."

Judge Henry M. Walker addressed the Physicians Fellowship Club, Chicago, November 4, on "Courts, Crime and Psychiatry," with special reference to the advisability of sterilization.

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### News Notes

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—The Chicago Pediatric Society met at the Children's Memorial Hospital, 715 Fullerton Avenue, November 15, where the members of the staff conducted a clinical program.

—A memorial paper to the late Dr. Joseph R. Hollowbush was presented to the Rock Island County Medical Society, November 8, by Dr. George L. Eyster. The society was addressed by Dr. Jacob Meyer of Chicago on "Nephritis," and by Dr. George D. Hauberg, Moline, on "Diabetic Coma."

—Northwestern University Medical School issued invitations to a convocation at the Archibald Church Library, Ward Memorial Building on the McKinlock Campus, November 4, in honor of the presentation of the cross of the legion of honor awarded by the French government to Dr. Isaac A. Abt.

—The Norbury Sanatorium, Jacksonville, announces a program of expansion representing an investment of about \$100,000 and including the construction of a fireproof addition with a capacity of twenty patients, making the total capacity 120; the sanatorium has a department for women known as Maplecrest just outside the city limits and surrounded by 31 acres of landscaped grounds.

—A jury in Judge Feinberg's court, November 20, found Mrs. Lucy Hagenow guilty of having performed an illegal operation on a girl who

died later. Mrs. Hagenow was sentenced to fourteen years in prison on a charge of manslaughter; she has served two terms in prison for similar offenses, having been convicted in 1898 and again in 1908, and has been acquitted of similar charges in other trials. She is now 82 years of age.

—Mayor William Hale Thompson has appointed Dr. Arnold H. Kegel health commissioner of the city of Chicago to succeed Dr. Herman N. Bundesen, who has held that position for more than five years. Dr. Kegel graduated at Loyola University School of Medicine in 1916 and from 1917 to 1921 was at the Mayo Foundation and Clinic, Rochester, Minn. He is now practicing surgery in Chicago as a member of the Storer, Kegel and Brock Clinic. He is chairman of the medical section of Mayor Thompson's Flood Control Conference.

—Col. Robin W. C. Francis, superintendent of the Woodward Veterans' Bureau Hospital in Maywood, announced, November 9, that he is resigning because of ill health. It is reported that Drs. Walter Rapaport and Arthur Lederer have also resigned from the staff of the hospital. The newspapers noted, November 15, that several physicians on the staff of the hospital had been suspended for ninety days without pay for their alleged connection with the sale of liquor prescriptions which has been under investigation.

—The Illinois Society for Mental Hygiene announces a monthly lecture course on the mental hygiene of the child to be given at the City Club. Tickets may be purchased at the office of the society, 203 North Wabash Avenue, for \$5, and by members for \$3. The lecture, November 8, was given by Dr. Edwin R. Eisler, Minneapolis, on "Emotional Life of the Child"; December 6, by Dr. Esther L. Richards, Baltimore, on "Parent-Child Relationships"; January 10, by Claudia Wanamaker, on "Recreation as a Mental Hygiene Measure"; February 14, by Dr. William Healy, on "The Home in Relation to Child Delinquency"; March 13, by Dr. Harold Douglas Singer, on "Adolescence"; April 10, by Thomas D. Eliot, on "Mental Hygiene and the College Student," and Dr. Lewis J. Pollock, on "The Mental Hygiene Approach."

—Seventy-five persons representing practically every organization in the community attended a dinner at the Lincoln State School and Colony, Lincoln, November 14, at which the president of

the Logan County Medical Society, Dr. Anthony M. Drummy, Lincoln, was toastmaster, and the principal speaker, Dr. Alexander S. Hershfield, state alienist. Dr. Hershfield presented a program entailing the organization of a consulting staff of local physicians in each community where a state hospital is located, and the establishment of various clinics in the hospitals for the better study and care of patients. He pointed out that Illinois gives its patients the best custodial care of all the states; that the development of psychiatry is well operated and the mental side of institutional care properly emphasized, but that there still needs to be more general medical assistance, more attention paid to the physical condition of patients, and more study that may well furnish some explanation of mental difficulties. To accomplish this, greater cooperation with general practitioners and all types of specialists outside the institution is desirable. The plan for a better cooperative effort was endorsed at the dinner. Other speakers included the managing officer of the Lincoln State School, Dr. Christian H. Diehl, Effingham, Judge Lindley, Judge Stringer, Rev. W. C. Lloyd, representatives of the Woman's Club, the press, Rotary, Kiwanis, the Parent-Teacher Association, the Association of Commerce and other organizations.

—At the request of the health commissioner of Chicago, the finance committee of the city council voted funds for a survey of health conditions among the negroes. The work, which began May 2 and was completed July 29, was conducted under the direction of Dr. Harrison L. Harris, Jr., and an advisory committee of eighteen under the chairmanship of Isidore S. Falk, Ph.D. A fact brought out in the report, the health commissioner states, is that the negro death rate in Chicago is twice that of the city as a whole; it is said to be 22.8 per thousand for the negroes, while the negro infant mortality is 94.7 per thousand live births. These rates are figured on the basis of a negro population of 160,000 for 1926 and a total population for Chicago of 3,048,000. The largest loss of life among negroes is from tuberculosis, pneumonia and diseases of infancy. The comparative rates for tuberculosis among the white and black races were 58.5 and 348.5, respectively; pneumonia, 88.8 and 114.7, respectively, and diseases of infancy, 64.6 and 94.7, respectively. The report of the survey states that communities in which the negroes reside in large



est numbers are poor in health agencies, while some institutions in these communities do not extend their services to negroes. Furthermore, there is a wide variation in efficiency in the contagious disease control work in the public schools and a closer supervision seems necessary. Further standardization of results of examinations of the school children is urged in the report as well as a more extensive correction of defects, more positive health teaching and the extension of facilities to care for the school child. It is also said that a careful examination should be made of the basis on which the services are being rendered to the negro by the hospitals of Chicago.

—Next annual Clinical Congress of the American College of Surgeons will be held in Boston, October 8-12, 1928.

—At the regular monthly meeting of Union County Medical Society November 10, Dr. Don Deal, of Springfield discussed "The Acute Abdomen" and Dr. A. E. Rives, of East St. Louis discussed obstetrical problems, particularly "Breech Presentation" and "Hemorrhage." Physicians from Jackson, Perry, Williamson and Pulaski were visitors.

—The Illinois Trudeau Society, on invitation of the Morgan, Scott, Pike, Cass and Greene County Medical Societies, held its winter meeting at Jacksonville on Thursday, November 10, 1927. The meeting was very well attended by physicians throughout the State. Papers were read by Doctors Carl A. Hedblom, George Gelhorn, Hermon H. Cole and Edward A. Oliver. Doctor Robert H. Hayes of Chicago was elected president for the coming year, Doctor William Newcomb of Jacksonville, vice-president, and Doctor W. C. Martini of Springfield was re-elected secretary-treasurer.

—The fifty-third annual meeting of the Southern Illinois Medical Association was held in Murphysboro November 3rd and 4th. The membership is composed of physicians in the ninth and tenth Councilor Districts. About 125 physicians attended the sessions. The new officers are: President, Dr. F. H. Gunn, East St. Louis; first vice-president, Dr. A. R. Carter, Murphysboro; second vice-president, Dr. R. F. Lischer, Macoutah; secretary-treasurer, Dr. W. J. Benner, Anna; assistant secretary, Dr. Marshall W. Hall, Mt. Vernon. Place of meeting next year is Mt. Vernon.

## Deaths

WILLIAM A. BOYD, Milwaukee, Wis.; University of Louisville, Ky., 1853; a Civil War veteran and practitioner for many years in Rockford; since 1923 in Soldiers Home as result of fractured hip; aged 86; died in that institution, October 21.

ANSON R. BRACKETT, Chicago; Medical College of Ohio, Cincinnati, 1880; aged 72; died, October 28, of chronic nephritis.

MARTIN RIST CHASE, Chicago; Northwestern University Medical School, 1912; a veteran of the World War, serving with Base Hospital 12 in France and being promoted to rank of Major, 1917-1919; associate professor of medicine in Northwestern University Medical School; staff of Wesley and Cook County hospitals; member of numerous clubs and fraternities; aged 41; died at Wesley hospital, November 2, of lobar pneumonia.

ALEXANDER CAIRD, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1896; aged 84; died, October 14, of cerebral hemorrhage.

JOSEPH ELLIOTT COLBURN, Chicago; Albany (N. Y.) Medical College, 1877; formerly on the staffs of the Cook County Hospital and the Illinois Eye and Ear Infirmary; Prof. of ophthalmology in the Chicago Polyclinic, and in the Chicago Eye, Ear, Nose and Throat Hospital. Dr. Colburn was the author of a book of clinical lectures on diseases of the eye and of monographs on diseases of the eye and allied subjects. He was a member of the Chicago Medical Society, American Academy of ophthalmology, Ex-pres. of the Western Soc. Ophthalmology; ex-vice pres. of the Chicago Society of Artists, and a member of the Cliff Dwellers; aged 74; died, October 27, at Winthrop Harbor, Ill., of cerebral hemorrhage.

DOLPH CONOVER, Flat Rock, Ill.; Hospital College of Medicine, Louisville, Ky., 1898; aged 52; died, November 11, of tuberculosis.

ANDREW JOHNSON, Moline, Ill.; University of Nebraska College of Medicine, Omaha, 1890; formerly superintendent of the Norfolk (Neb.) State Hospital; aged 67; died, October 15, in Indianapolis, of heart disease.

ARVID MITCHELL KRUEGER, Chicago; Rush Medical College, Chicago, 1925; a Fellow, A. M. A.; aged 26; was found dead, October 18.

JOHN POMFRET LONG, Astoria, Ill.; Chicago Homeopathic Medical College, 1903; lieutenant in medical corps; served in Embarkation hospital, Newport News, in World War; aged 51; died October 17 at a sanitarium in Peoria.

LUTHER HOWARD MALONEY, Savanna, Ill.; General Medical College, Chicago, 1884; aged 70; died August 10 of carcinoma of the stomach.

YSABEL G. RICHMOND, Chicago; General Medical College, Chicago, 1895; many years on staff of Daily News Fresh-Air Fund; aged 70; died November 10, of coronary thrombosis.

MARY WARD MEAD, Augusta, Ill.; College of Physicians and Surgeons, Keokuk, 1897; aged 55; died October 16.

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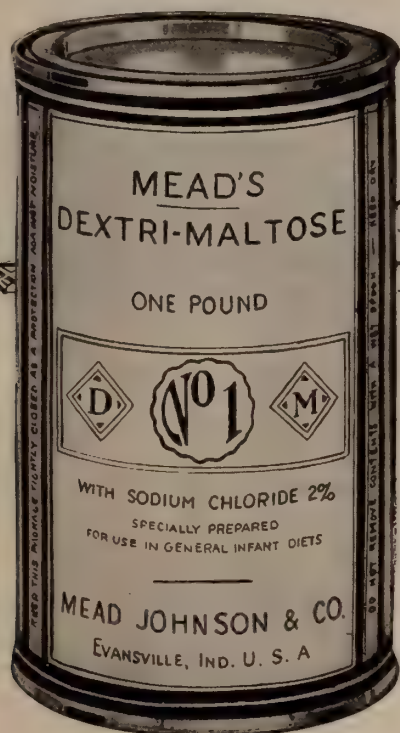
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